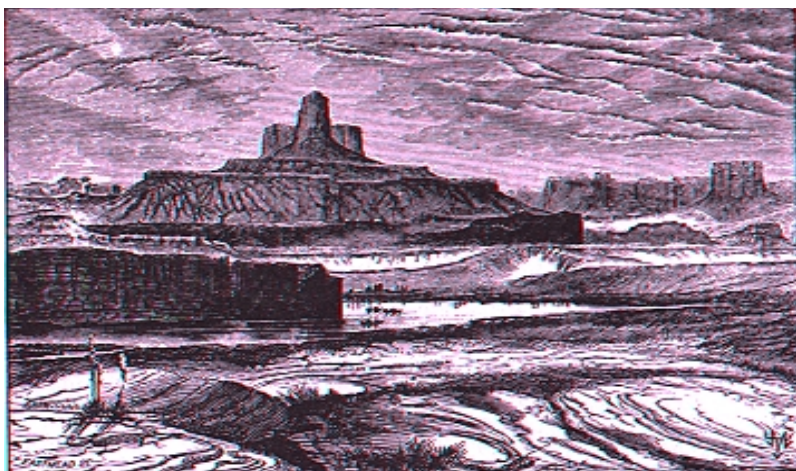


Rivers of Canyonlands National Park: 1998 Visitor Use Study

FINAL REPORT

Submitted to
Canyonlands National Park



by

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David W. Lime, University of Minnesota
Robert E. Manning, University of Vermont
Wayne A. Freimund, University of Montana

University of Minnesota
COOPERATIVE PARK STUDIES UNIT
College of Natural Resources

December 15, 1999

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Canyonlands National Park liaison was directed by David Wood, recreation planner.

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DEFINITIONS

Backcountry permit	Permits are required for river runners taking overnight trips in Canyonlands National Park. Permits must be obtained from the Canyonlands reservation office before embarking on an overnight river trip. The cost for backcountry permits in 1998 was \$10 for flatwater trips and \$25 for trips through Cataract Canyon. Outfitters are responsible for obtaining permits for commercial trips.
Campsite encounter	The number of groups camped within site <i>and</i> sound of the party completing the diary.
Campsite encounter zone	The segment of the Green River, Colorado River, Cataract Canyon, or Lake Powell where a group camped. Four zones were determined by using the name of the campsite or the river mile as recorded by a party in its trip diary: (1) Green River flatwater, (2) Colorado River flatwater above the confluence with the Green River, (3) Cataract Canyon, and (4) Lake Powell below Cataract Canyon to Hite Marina.
Commercial groups/parties	Respondents who used the services of an outfitter for equipment and guiding.
Diary days of information	Information provided by the respondent for a specific day of the river trip. Diary days of information are categorized by encounter zone (see campsite encounter zone and river encounter zone).
Flatwater stretch	The stretches of the Green and Colorado Rivers from the upstream park boundaries (below Mineral Bottom and below Shafer Canyon, respectively) to Spanish Bottom, above Cataract Canyon. Groups taking flatwater trips took out at the confluence or Spanish Bottom.
Group	The total number of people traveling together under one permit on a river trip (excluding guides or river crew members). A group could be comprised of one or more parties (see definition of <i>party</i>).
Jetboat	Boat powered by water jet propulsion. Typically used to transport flatwater river runners up the Colorado River to Potash landing after the completion of their flatwater trips. Jetboats also are used to carry visitors on single-day (or less) river tours.

Mean	A measure of the center of the data set. Popularly known as the arithmetic <i>average</i> ; the sum of the observations in the set divided by the number of observations. Means have a leveling effect. They tell nothing about variations or extreme values that may act to skew the data.
Median	The number in a data set where one-half of the numbers are at or below it and one-half above it. It is often a better statistic than the mean when the population is skewed by extreme values. Indicators of a population skewed by extreme values include a high standard deviation or a large difference between the mean and median.
Party	One or more people traveling together as an independent social unit on a trip. There were often several parties within both commercial and private groups (see definition of <i>group</i>).
Party leader	The self-designated individual in the party responsible for completing the trip diary and post-trip questionnaire and returning it (either to the outfitter or by using the self-addressed stamped envelope provided).
Post-trip Questionnaire	Questionnaire completed by respondents after the completion of their river trip.
Pre-trip forms	Form filled out by interviewer to collect background information about respondents before they received their diary and post-trip questionnaire.
Private groups/parties	Respondents who did not use the services of a guide for their trip. However, private parties may have utilized the services of an outfitter for equipment or shuttle services.
River encounters	Number of watercraft, not including their own, observed by a river party.
River encounter zone	The segment of the Green River or Colorado River where a party encountered other watercraft. Four zones were determined by using the name of the campsite and time traveling on the water each day as recorded in the trip diary: (1) Green River flatwater, (2) Colorado River flatwater above the confluence with the Green River, (3) Cataract Canyon, and (4) Lake Powell below Cataract Canyon to Hite Marina.

Statistical significance	The probability that a difference observed between two groups could have occurred by chance. For example, a .05 significance level means that the probability that a difference between two groups occurred purely by chance is 5 percent or less, or that there is a 95 percent probability that the two groups indeed differ.
Standard deviation	A measure of the degree of variability in a sample; the variation between values in a sample and the sample mean.
Trip Diary	Diary completed by a party for each day of its river trip.
Type of river trip	Three river trip types are defined for the pre-trip forms: (1) Green River flatwater, (2) Colorado river flatwater and Cataract Canyon, and (3) Green River flatwater and Cataract Canyon. For the post-trip questionnaire, data analyses were conducted for two of the river types: (1) Green River flatwater and (2) Colorado River flatwater and Cataract Canyon. At the park's request, several analyses also were done for Green River flatwater and Cataract Canyon trips.

BACKGROUND

Canyonlands National Park, established in 1964 (Public Law 88-590) and expanded to 527 square miles in 1971, is primarily a backcountry destination. Each year, the park's cultural and natural features attract more than 400,000 visitors, with most coming in spring, summer, and fall.

Visitors enjoy many activities including hiking, camping, backpacking, mountain biking, four-wheel driving, and river running. Within park boundaries, the Colorado and Green rivers offer opportunities for a variety of river experiences. Above the confluence, the calm waters of the Colorado and Green rivers present favorable conditions for flatwater river trips. Several miles below the confluence of the two rivers, Cataract Canyon provides river runners with the opportunity to experience approximately 14 miles of whitewater rapids ranging in difficulty up to Class V.

Present management of the rivers within Canyonlands National Park is guided by a plan completed in 1981. The current management plan mandates a ceiling of 8,000 passengers in Cataract Canyon from April 15 to October 14, with no ceiling during the remainder of the year. There also is a group size limit of 40 passengers. There is no ceiling on the Green and Colorado rivers above their confluence. Selection of campsites, launch dates, and launch times are not limited. There also is no limit on the number of launches per day. However, all overnight river flatwater trips and overnight trips through Cataract Canyon require a permit. Since 1981, visitor use has increased substantially, particularly on the flatwater stretches. Increases in visitor use and the emergence of new issues related to the river have required an update of the current river management plan.

During the summer of 1998, the University of Minnesota Cooperative Park Studies Unit (CPSU), University of Vermont, and University of Montana administered a river trip survey in Canyonlands National Park. The purpose of this study was to better understand river use and users on the Colorado and Green rivers as well as to obtain knowledge of visitor attitudes toward potential management actions. Information gathered will be used to guide development of a new river management plan for the Colorado and Green rivers through Canyonlands National Park.

A sample of overnight campers on the Colorado and Green rivers was asked to complete a "Trip Diary" and "Post-trip Questionnaire." Additional information was gathered by surveying participants of the annual Friendship Cruise on Memorial Day weekend as well as scenic jetboat tour participants traversing the flatwater stretch of the Colorado River upstream from the confluence with the Green River. The results of the Friendship Cruise and jetboat tour surveys are contained in separate reports (Warzecha et al. 1999a,b).

STUDY METHODS

Surveys were used to obtain data from a representative sample of visitors to the Green and Colorado rivers through Canyonlands National Park. The study had pre-trip, during-trip, and post-trip components and followed established procedures for studying river recreation use and users. A pre-trip interview was administered to both private river users (those who did not use the services of a guide, but may have utilized the services of an outfitter for equipment or shuttle services) and commercial river users (those who used the services of an outfitter for equipment and guiding) as they began their trips (appendix A and B). The pre-trip interviews collected background information about the launch site, number of people on each trip, number of nights camped on the river, type of watercraft employed, use of an outfitter, and the number of diaries distributed to each group. The interview also included the name and address of the party leader as well as the size of the party receiving the during-trip and post-trip survey materials.

Respondents were asked to participate in the study and to keep a diary or daily record of various aspects of their experience. The trip diary (appendix C) addressed indicators and standards of quality of the river experience and also gathered information about travel routes. Indicators of quality focused on density-related issues, such as numbers of encounters with other visitor groups at campsites and on the river. Along with the trip diary, each party also received a post-trip questionnaire (appendix D) to fill out after the completion of their trip. This questionnaire addressed the degree to which visitors attained the experiences they sought, problems they may have encountered, the acceptability of alternative river management practices, and their feelings of attachment to the rivers in Canyonlands National Park. Although party leaders were responsible for filling out the two surveys, party members were encouraged to contribute their ideas and opinions. Parties returned their trip diaries and post-trip questionnaires by giving them to their outfitter or returning them in the postage paid, pre-addressed envelope provided.

Follow-up procedures were employed to contact nonrespondents in an effort to obtain a high response rate. A reminder to return their diary and post-trip questionnaire was sent to nonrespondents (party leaders) approximately two weeks after the last day of their river trip. A second reminder, along with another post-trip questionnaire (not a diary), was sent to each nonrespondent (party leader) about two weeks after the first reminder.

Groups were often comprised of several parties (social groups). Frequently, several sets of trip diaries and post-trip questionnaires were distributed to more than one party in a given group. It is very possible that a party may have decided to collaborate with one or more parties within the group and collectively answered the questions in the trip diary and post-trip questionnaire.

A total of 808 onsite diaries and mailback post-trip questionnaires were administered from May 29 to October 20, 1998. Based on National Park Service (NPS) estimates of visitor use numbers and distributions, an effort was made to obtain a representative sample of the commercial and private portions of total use on both rivers.

For the pre-trip forms, three types of river trips were independently investigated: (1) Green River

flatwater, (2) Colorado River flatwater/Cataract Canyon, and (3) Green River flatwater/Cataract Canyon. For the post-trip questionnaire, two types of river trips were examined: (1) Green River flatwater and (2) Colorado River flatwater/Cataract Canyon. Selected additional analyses also were done for Green River flatwater/Cataract Canyon. For the trip diary, 4 study zones within Canyonlands National Park were investigated independently for river encounters with other watercraft and data sets were not combined: (1) Green River flatwater, (2) Colorado River above Cataract Canyon (flatwater stretch), (3) Cataract Canyon, and (4) Lake Powell. The same zones were used to evaluate encounters at campsites. Representative samples were collected during two recreation use periods in 1998: (1) main summer season—late May, June, July, and August, and (2) fall—September into mid-October.

Study data derived from the diary questionnaire are spatially referenced (that is, respondents noted the stretch of river they were floating and answered questions in reference to that particular stretch of river) and can be directly associated with one or more of the four river zones included in the study. However, data derived from the post-trip questionnaire apply to the whole river trip, and therefore may apply to more than one of the four study river zones. Thus, caution should be exercised in interpreting data for respondents whose trips covered more than one study river zone.

The sampling unit was parties of visitors traveling as an independent social unit. Private groups were generally smaller than commercial groups and frequently contained fewer parties. More than one party per commercial or private trip participated in the study when interest was expressed. The selected party was instructed to identify a party leader to be responsible for the diary, but all members of the party were encouraged to participate in completing the diary each day.

Flatwater trips travel down both the Green and Colorado rivers. Flatwater trips on the Green River typically launched at Mineral Bottom. However, some groups also launched at Green River State Park, Ruby Ranch, and Crystal Geyser upstream from Mineral Bottom. The Potash landing was the most common launch site for flatwater trips on the Colorado River. Flatwater trips for both rivers concluded at either the confluence or Spanish Bottom (2 miles below the confluence) where river runners were picked up by jetboat shuttle.

River trips through Cataract Canyon typically launched at Potash (Colorado River) or Mineral Bottom (Green River) and took out at Hite Marina on Lake Powell, 45 river miles below Spanish Bottom. River runners using nonmotorized watercraft often arranged to be towed across Lake Powell to Hite Marina.

The completed survey forms were commercially keypunched and the data set was uploaded to a personal computer for analysis. Data were analyzed using the Statistical Program for the Social Sciences (SPSS/PC+). Basic descriptive statistics, frequency distributions, and selected cross tabulations were computed for selected variables.

SELECTED STUDY RESULTS

A. Response Rates and Comparison between Respondents and Nonrespondents

A total of 808 trip diaries and post-trip questionnaires were distributed to 376 groups (table A.1). More diaries and post-trip questionnaires were distributed to commercial parties (480—59 percent of the surveys) compared to private parties (328—41 percent of the surveys). NPS estimates of visitor use numbers and distributions during the study period suggest the sample was representative of the commercial and private portions of total use on both rivers.

Response rates were highest among parties on Green River flatwater trips (77 percent for diaries and 83 percent for post-trip questionnaires) and lower for parties on Colorado River/Cataract Canyon trips (60 percent for diaries and 69 percent for post-trip questionnaires) (table A.2). Response rates for post-trip questionnaires were higher than for trip diaries. Higher response rates for post-trip questionnaires can be attributed to party leaders receiving reminder notices and replacement questionnaires to complete and return via a self-addressed postage-paid envelope.

The response rates are even higher both for the trip diary and post-trip questionnaire when analyzed on the basis of whether or not at least one survey was received per group sampled (tables A.3, A.4, and A.5). That is, to what extent was at least one trip diary or post-trip questionnaire received per group of people traveling together on a trip? Response rates for groups returning at least one trip diary (table A.3) were higher for private groups (70.9 percent) than for commercial groups (63.3 percent). Likewise, response rates for groups returning at least one post-trip questionnaire per group (table A.4) were higher for private groups (80.6 percent) as compared to commercial groups (69.8 percent). The highest response rates were obtained from groups returning either a trip diary *or* a post-trip questionnaire (table A.5).

Respondents were more likely to be traveling with a private group than were non-respondents (table A.6). Respondents also differed from nonrespondents in the type of river trip taken. More respondents than nonrespondents were on Green River flatwater trips (43 percent and 23 percent, respectively). Conversely, more nonrespondents were on Colorado River/Cataract Canyon trips (67 percent) than respondents (49 percent). In addition, a higher percentage of respondents were on nonmotorized trips (65 percent) as compared to nonrespondents (51 percent).

The sample size for the study was adequate and the response rates more than acceptable for this type of study. It should be acknowledged, however, that the survey results represent only river users sampled during the study period and cannot be extended to other times of the year or other years. That is, survey results should be thought of as pertaining to river users during the time period the data was collected. Additionally, river users who did not visit Canyonlands National Park because of crowding or some other issue were not included in this study. Nonetheless, the study period did include the major portion of the river recreation use season in Canyonlands National Park. As such, study results are adequate to support an informed dialogue among interested parties about the future of river use on these important natural resources.

B. Characteristics of the River Trip

All groups on Green River flatwater trips were private (table B.1). However, 13 commercial groups began their trips on the Green River and continued through Cataract Canyon. More than half of the Colorado River/Cataract Canyon trips were commercial (60 percent) while 40 percent were private.

The primary put-in site for private groups on the Green River flatwater was Mineral Bottom (table B.2). For the Colorado River/Cataract Canyon trips, most groups put in at Potash (table B.3). All commercial groups taking trips on the Green River and continuing through Cataract Canyon put in at Mineral Bottom and nearly all private groups (92 percent) also put in at Mineral Bottom (table B.4).

Private groups on the Green River flatwater took out at either the confluence of the Green and Colorado rivers (59 percent) or at Spanish Bottom (41 percent) (table B.5). All commercial groups on Colorado River/Cataract Canyon trips took out at Hite Marina, as did the majority of private groups (74 percent) (table B.6). Similarly, most (92 percent) Green River/Cataract Canyon trips took out at Hite Marina (table B.7).

The average group size on Green River flatwater trips was four people (table B.8). The most frequent group size was two people (42 percent) followed by groups of four people (17 percent). The average group size for Colorado River/Cataract Canyon trips was higher than Green River flatwater trips with commercial groups having a larger average size (13 people) than private groups (10 people). The most frequent group size for both private and commercial groups was between 11 and 15 people (table B.9). For Green River/Cataract Canyon trips, the average size of commercial groups was about twice as large (10 people) as that of private groups (5 people) (table B.10).

Groups on the Green River flatwater stayed an average of five nights on the Green River (table B.11) with most staying three (19 percent), four (23 percent), or five nights (20 percent). Of the 55 groups that camped on the flatwater stretch of the Colorado River, 95 percent stayed one night. For Colorado River/Cataract Canyon, commercial groups spent an average of three nights on the river while private groups spent an average of four nights on the river (table B.12). Groups beginning their trips on the Green River and traveling through Cataract Canyon spent about three nights on the Green River flatwater and between two and three nights on the Colorado River flatwater or in Cataract Canyon (table B.13).

For Green River flatwater trips, canoes and kayaks were the most commonly used watercraft (93 percent) by private groups (table B.14). Fewer than 1 percent of Green River flatwater groups were on a motorized trip. However, for Colorado River/Cataract Canyon trips, commercial groups were more commonly motorized (79 percent) than were private groups (37 percent) (table B.15). For Green River/Cataract Canyon trips, two-thirds of commercial groups utilized motorized watercraft compared to a quarter of the private groups (table B.16).

Groups left the river in a variety of ways. All groups on the Green River flatwater left exclusively by means of a jetboat shuttle (table B.17). Nearly half (48 percent) of all Colorado River/Cataract Canyon groups used an airplane to leave the river after taking out and nearly a third (30 percent) drove their vehicle that had been shuttled to the take-out point. For groups starting on the Green River and taking out at Hite Marina, nearly half (46 percent) were driven back to their cars in a shuttle vehicle, while nearly a third (32 percent) left via airplane from the airport near Hite Marina.

C. Characteristics of Parties and Party Leaders

All Green River flatwater trips were private while the majority of Colorado River/Cataract Canyon trips were commercial (78 percent) (table C.1). More than one-third (37 percent) of Green River/Cataract Canyon trips were private while nearly two-thirds (63 percent) were commercial.

The average size of parties on Green River flatwater trips was three people (table C.2) and half had a party size of two people (see definitions of party and group). For Colorado River/Cataract Canyon trips, the average party size for commercial parties was smaller (three people) than for private parties (seven people) (table C.3). For both private and commercial parties on Colorado River/Cataract Canyon trips, a party size of two was most common (21 percent and 38 percent, respectively) (table C.3). Similarly, a party size of two also was most common for both private and commercial parties (22 percent and 38 percent, respectively) who put in on the Green River and continued to Hite Marina (table C.4).

Party leaders came from 45 states and the District of Columbia. Party leaders on Green River flatwater trips were most likely to come from California (16 percent) and party leaders on Colorado River/Cataract Canyon trips were most likely to come from Utah (22 percent). Party leaders taking Green River/Cataract Canyon trips were most frequently from either Utah (25 percent) or California (17 percent) (table C.5).

D. Motives for Taking the River Trip

Respondents reported their motives for taking a river trip by rating the importance of 23 items using a 5-point scale (1= not at all important, 2=slightly important, 3=moderately important, 4=very important, 5=extremely important). For Green River flatwater, Colorado River/Cataract Canyon, and Green River/Cataract Canyon trips, the following motives received a mean score of 4.0 or higher: To experience an undeveloped river, to enjoy views of the river, to be close to nature, and to experience some very wild country. Green River flatwater parties also gave high ratings (mean score of 4.0 or higher) for the importance of being away from people and experiencing solitude. Colorado River/Cataract Canyon parties also gave high importance ratings

to having thrills and excitement and taking a challenging river trip. Green River/Cataract Canyon parties reported high ratings for experiencing solitude. (table D.1).

Comparisons between private and commercial parties on Colorado River/Cataract Canyon trips indicated both similarities and differences in the importance of experiences sought. In comparison to commercial parties, private parties gave relatively higher importance ratings for using their equipment, being with members of their group, and testing their skills and abilities (table D.2).

For Green River/Cataract Canyon trips, private parties indicated a relatively higher level of importance for being on their own, using their equipment, testing their skills and abilities, being away from other people, and experiencing solitude compared to commercial parties (table D.3).

E. Attainment of Motives

Respondents rated their attainment of motives on the Green River flatwater and Colorado River/Cataract Canyon by rating their attainment of 23 items using a 4-point scale (1=not at all attained, 2=somewhat attained, 3=moderately attained, 4=highly attained). The most successfully attained motives for all types of river trips were to enjoy views of the river and to be close to nature. For parties on Green River flatwater and Green River/Cataract Canyon trips, experiencing an undeveloped river also received high attainment ratings. For parties on Green River flatwater trips, the motive receiving the lowest attainment ratings was to meet new people. For parties on Colorado River/Cataract Canyon and Green River/Cataract Canyon trips, the motive receiving the lowest attainment rating was to be away from family for a little while (table E.1). In general, motives that received relatively low attainment ratings also received relatively low importance ratings.

Although attainment level ratings were similar for private and commercial parties taking Colorado River/Cataract Canyon trips and Green River/Cataract Canyon trips, several differences emerged. Private parties reported higher levels of attainment for the motive of using their own equipment compared to commercial parties. In comparison to private parties, commercial parties gave higher attainment ratings for the motive of meeting new people (tables E.2 and E.3). To reiterate, motives that received low attainment ratings generally received low importance ratings.

F. Acceptability of Campsite Encounters

For the Green River flatwater, the majority (90 percent) of the diary days of information reported came from private parties (table F.1). For the Colorado River flatwater, commercial parties contributed nearly two-thirds (64 percent) of the diary days while those on private parties contributed more than one-third (36 percent) of the diary days. Most diary days of information collected for Cataract Canyon (85 percent) and Lake Powell (82 percent) came from commercial parties.

In general, parties encountered few other groups camped within sight and sound of their campsite. For all campsite encounter zones, more than 60 percent of diary days of information indicated no other groups camped within site and sound of a group's campsite (table F.2). Excluding the Lake Powell data set, more than 71 percent of the days of information indicated no other groups camped nearby. More than 90 percent encountered one or fewer groups camped within sight and sound of their own group.

Respondents rated the acceptability of the number of other groups camped within sight and sound of their campsite based on a 9-point scale with -4 being very unacceptable and +4 being very acceptable. Among all parties, acceptability of campsite encounters was generally quite high, with average ratings between 2.7 and 3.0 (table F.3). Acceptability ratings were highest for private parties in Cataract Canyon with a mean score of 3.5, and 79 percent of the scores were 4.0, the highest possible rating (table F.4). Acceptability ratings were lowest for private parties on Lake Powell with a mean score of 2.4, and 57 percent of the scores were 4.0, the highest possible rating. For commercial parties, acceptability ratings ranged from 2.8 on Lake Powell to 3.1 on the Green River flatwater (table F.5).

G. Acceptability of River Encounters

For the Green River flatwater, the majority (89 percent) of the diary days of information reported came from private parties (table G.1). Commercial parties represented the majority of respondents for the Colorado River flatwater (69 percent), Cataract Canyon (74 percent), and Lake Powell (83 percent).

Green River flatwater and Cataract Canyon parties spent an average of four hours on the water each day (table G.2). (It is important to note, however, that the Cataract Canyon encounter zone is not as long as the Green River flatwater encounter zone). On average, parties on the Colorado River flatwater spent the most time (six hours) traveling on the river each day.

Respondents were asked to record the number of watercraft of different types they saw on each day of their river trip and to rate the acceptability of their encounters by watercraft type (based on a 9-point scale with -4 being very unacceptable and +4 being very acceptable). In addition, they indicated whether negative ratings were influenced by the sheer number of watercraft they saw or by something else. These data are presented in tables G.3-G.14. For each river encounter zone, there are three tables: (1) responses of all parties, (2) responses of private parties, and (3) responses of commercial parties.

For parties on the Green River flatwater, the most frequently reported watercraft encounters were with canoes and kayaks (tables G.4, and G.5). The acceptability of seeing canoes and kayaks was slightly higher for commercial parties (2.9) compared to private parties (2.4). Rafts with motors received the lowest acceptability ratings. Private parties indicated a lower level of acceptance for motorized rafts (1.7) than commercial parties (2.5).

On average, the most frequently reported watercraft by private parties on the Colorado River flatwater were motorized rafts, jetboats, and nonmotorized rafts (table G.7). Commercial parties most frequently reported encountering rafts with motors. Acceptability ratings for watercraft encountered were highest for nonmotorized rafts as well as canoes and kayaks (tables G.7 and G.8). Jetboats received the lowest acceptability ratings, with commercial parties indicating relatively lower acceptability for jetboat encounters than private parties.

Parties traveling through Cataract Canyon most frequently reported encountering nonmotorized rafts (tables G.10 and G.11). Compared to commercial parties, private parties reported encountering slightly fewer watercraft of all types (6.4 and 9.1, respectively). Acceptability ratings for both motorized and nonmotorized rafts were higher for private parties (2.8 and 3.4, respectively) than for commercial parties (1.7 and 2.0, respectively).

For parties traveling on Lake Powell, the most frequently reported encounters were with motorized rafts (tables G.13 and G.14). Acceptability ratings were higher for nonmotorized rafts than for motorized rafts with private parties providing slightly higher ratings than commercial parties.

Respondents were also asked to respond to four other evaluative concepts regarding acceptable encounters while on the rivers. These evaluative concepts included: (1) maximum number of watercraft that would be acceptable to see, (2) number of watercraft preferred to see, (3) maximum number of watercraft they could tolerate seeing before they would consider not visiting the river again, and (4) maximum number of watercraft they thought the NPS should have managed for them to see. Respondents reported numerical evaluations or they could report (as appropriate) “they couldn’t estimate a number,” “they didn’t have a preference,” “they would visit the river regardless of the number of watercraft seen,” or “the National Park Service should not limit numbers of watercraft.” These data are presented in tables G.15 through G.26. For each river encounter zone there are three tables: (1) responses of all parties, (2) responses of private parties, and (3) responses of commercial parties.

For each day of their river trip, parties were asked to provide the maximum number of watercraft that would have been *acceptable* to see. For those who gave a maximum number, both private and commercial parties on the Green River flatwater gave the lowest maximum numbers (7.4 and 8.0, respectively) (tables G.16 and G.17). For private parties, the highest acceptable number of watercraft to see was reported by parties traveling in Cataract Canyon (14.5). For commercial parties, the highest acceptable number of watercraft to see was reported by parties on Lake Powell (11.8).

For each day of their river trip, parties were asked how many watercraft they would have *preferred* to see. Overall, the preferred number was lower than the acceptable number of watercraft to see on a particular day. Private parties preferred to see the fewest watercraft on the Green River flatwater (1.8) and the most in Cataract Canyon (5.9) (table G.19). Commercial

parties preferred to see the fewest watercraft on the Colorado River flatwater (2.5) and the most on Lake Powell (4.2) (table G.20).

For each day of their river trip, parties were asked to give the maximum number of watercraft they could tolerate seeing before they would *consider not visiting the river again*. Overall, the maximum number of watercraft to see before not returning was higher than for the preferred number to see and the acceptable number to see. Private parties in all river encounter zones reported lower numbers of watercraft than commercial parties. For example, commercial parties on the Green River flatwater gave a maximum number of 26 watercraft whereas private parties on the Green River flatwater gave a maximum of about 13 (tables G.22 and G.23).

For each day of their river trip, parties were asked what was the maximum number of watercraft they thought the NPS *should have managed* for them to see. For private parties, the highest numbers of watercraft reported were for Cataract Canyon (15.1) and the Colorado river flatwater (12.5) (table G.25). For commercial parties, the maximum number respondents thought the NPS should have managed for them to see did not vary greatly among river encounter zones and ranged from about 9 to 11 watercraft (table G.26).

A majority of respondents answering questions concerning acceptable encounters while on the river reported specific numbers. However, depending on the evaluative concept being studied, nearly a third of the respondents could not estimate a number.

H. High Points and Low Points of the River Trip each Day

Using a free-response format, respondents reported a variety of daily high points in their trip diaries. Parties traveling the Green River flatwater most frequently listed scenery, views, landscape (32 percent), hiking/walking/exploring canyons (29 percent), and archeological or cultural sites (22 percent) (table H.1). Parties on the Colorado River flatwater reported scenery, views, landscape (35 percent), hiking/walking/exploring canyons (28 percent), and solitude, peacefulness, quiet, isolation (18 percent). Three-quarters of the parties traveling through Cataract Canyon listed rapids, whitewater, and scouting rapids as the highpoints of the day. Cataract Canyon parties also listed hiking/walking/exploring canyons (29 percent). For Lake Powell, a quarter of the parties reported hiking/walking/exploring canyons. Other frequently mentioned highlights for Lake Powell parties were scenery, views, landscape (24 percent) and geology, canyon walls, rock formations (16 percent).

Parties also listed a variety of low points in their trip diaries. The most frequently reported low point for parties on the Green River flatwater was insects (21 percent) followed by campsite competition (17 percent) and motorized watercraft (15 percent). Parties traveling the Colorado River flatwater listed weather (13 percent), jetboats (12 percent), and motorized watercraft (12 percent) as their low points. For Cataract Canyon, parties also reported weather (12 percent) as their primary low point followed by low water, small rapids (8 percent), and unpleasant social

encounters (7 percent). Nearly a quarter of the parties on Lake Powell listed finishing the trip (24 percent) and Lake Powell itself (23 percent) as the low point of their day.

I. Type of River Trip

Data collected through the use of the post-trip questionnaire analyzed data based on two types of river trips: Green River flatwater and Colorado River/Cataract Canyon. Table J (conditions encountered during the trip) and table K (potential management actions) do include responses of parties on Green River/Cataract Canyon trips. All parties on the Green River flatwater were private (table I.1). For Colorado River/Cataract Canyon, 77 percent of parties were commercial and 23 percent were private.

J. Conditions Encountered during the River Trip

Study participants were asked to evaluate 16 conditions they may have encountered during their river trip on either the Green River flatwater or Colorado River/Cataract Canyon. Respondents rated each condition on a 5-point scale with 1=not a problem, 2=slight problem, 3=moderate problem, 4=serious problem, and 5=very serious problem.

In general, mean scores indicated that parties perceived few conditions as being a problem. For the Green River flatwater, three conditions received mean ratings above 2, with a third of the parties rating the condition as either a moderate, serious, or very serious problem: noise from airplanes, difficulty finding an unoccupied campsite, and too many motorized watercraft along the river (table J.1). For Colorado River/Cataract Canyon, more than 30 percent of all parties (private and commercial parties combined) rated too many motorized watercraft seen along the river as being a moderate, serious, or very serious problem (table J.2). Private parties on Colorado River/Cataract Canyon trips perceived too many motorized watercraft seen along the river as being slightly more of a problem than commercial parties (tables J.3 and J.4).

Responses to conditions encountered during the river trip were evaluated for parties who began their trips on the Green River and continued through Cataract Canyon. Care should be taken in interpreting this set of tables (J.5 through J.7) because sample sizes are small, particularly for private parties (N = 19).

More than 30 percent of private parties on Green River/Cataract Canyon trips reported too many motorized watercraft along the river as being a serious or very serious problem. More than 25 percent perceived difficulty finding an unoccupied campsite and litter along the river as a moderate to serious problem (table J.6). Commercial parties gave all conditions a rating of less than 2.0 (table J.7).

K. Potential Management Actions

Respondents were asked to evaluate 22 potential management actions for their Green River flatwater or Colorado River/Cataract Canyon trip. Study participants rated each potential management action on a 4-point scale with 1=strongly oppose, 2=oppose, 3=support, and 4=strongly support.

More than 90 percent of Green River flatwater parties supported or strongly supported prohibiting personal watercraft from the river, limiting the number of jetboats allowed to use the river, and limiting the number of motorized rafts allowed to use the river (table K.1). Additionally, more than 75 percent supported or strongly supported limiting the number of people per group allowed on the river, providing more information to visitors about appropriate behavior on river trips, and providing more information to visitors about the natural and cultural history of the area. Opposition was greatest for prohibiting canoes and kayaks from the river, prohibiting nonmotorized rafts from the river, and requiring all boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary with more than 85 percent opposing or strongly opposing these potential management actions.

For Colorado River/Cataract Canyon trips, responses of private and commercial parties combined are presented in table K.2. Evaluating private and commercial parties independently, more than 70 percent of both private and commercial parties supported or strongly supported prohibiting personal watercraft from the river, providing more information to visitors about the natural and cultural history of the area, and limiting the number of jetboats allowed to use the river (tables K.3 and K.4). In addition, more than 70 percent of commercial parties also supported limiting the number of motorized rafts allowed to use the river, limiting the total number of watercraft to use the river, restricting the number of people allowed to use the river at any one time, and providing more information to visitors about appropriate behavior on river trips. More than 80 percent of both private and commercial parties on Colorado River/Cataract Canyon trips either opposed or strongly opposed prohibiting canoes and kayaks from the river, prohibiting nonmotorized rafts from the river, and prohibiting motorized rafts from the river.

Responses to various management actions also were evaluated for Green River/Cataract Canyon trips. Again, care should be taken in interpreting this set of tables (K.5 through K.7) because sample sizes are small, particularly for private parties (N = 19).

For Green River/Cataract Canyon trips, responses of private and commercial parties combined are presented in table K.5. Evaluating private and commercial parties independently, more than 70 percent of both private and commercial parties supported or strongly supported prohibiting personal watercraft, limiting the number of jetboats allowed to use the river, restricting the number of people allowed to use the river at any one time, and providing more information to visitors about the natural and cultural history of the area (tables K.6 and K.7). Additionally, over 70 percent of private parties supported or strongly supported limiting the number of people *per group* allowed on the river, prohibiting jetboats from the river, and providing more information

to visitors about appropriate behavior on river trips. More than 70 percent of commercial parties supported or strongly supported limiting the total number of watercraft allowed to use the river. More than 90 percent of both private and commercial parties opposed or strongly opposed prohibiting canoes and kayaks from the river as well as prohibiting nonmotorized rafts from the river. In addition, 79 percent of private parties either opposed or strongly opposed requiring boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary, limiting camping to designated campsites only, and providing more park rangers along the river to enforce rules and regulations.

Respondents also evaluated eight additional management actions that focused on managing the number of watercraft seen on the river. Each of the actions would require the acceptance of some regulation of use or would require paying a higher fee. Actions were evaluated on the same 4-point scale where 1=strongly oppose and 4=strongly support.

On the Green River flatwater, more than 80 percent of parties indicated support or strong support for launching on an assigned date to spread use out on the river (table K.8). Support or strong support was reported by 65 percent or more of parties for launching at an assigned time of the day to spread use out on the river and reserving a permit to use the river three months in advance because the number of watercraft using the river would be limited. Opposition was greatest for reserving a permit to use the river one year in advance and reserving campsites in advance and maintaining a predetermined itinerary to spread use out on the river with more than 80 percent of parties opposing or strongly opposing these potential management actions.

For Colorado River/Cataract Canyon trips, responses of private and commercial parties combined are presented in table K.9. Evaluating private and commercial parties independently, 78 percent of both private and commercial parties supported or strongly supported launching on an assigned date to spread use out on the river (tables K.10 and K.11). More private parties (69 percent) indicated support or strong support for reserving a permit to use the river three months in advance as compared to commercial parties (60 percent). Private parties more frequently opposed or strongly opposed reserving a permit to use the river one year in advance (85 percent) than commercial parties (79 percent).

Responses to eight additional management actions also were evaluated for Green River/Cataract Canyon trips. Once again, care should be taken in interpreting this set of tables (K.12 through K.14) because sample sizes are small, especially for private parties (N = between 16 and 19).

More than 63 percent of both private and commercial parties on Green River/Cataract Canyon trips supported or strongly supported reserving a permit 3 months in advance or launching on an assigned date to spread use out on the river (tables K.13 and K.14). More private parties indicated opposition or strong opposition to reserving a campsite in advance and maintaining a predetermined itinerary (84 percent) as compared to commercial parties (37 percent). For commercial parties, opposition or strong opposition was expressed (79 percent) for paying 50 percent more for a commercial river trip because the number of river trips would be limited.

L. Visitor Feelings about the River Trip

Using a 5-point scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree), respondents were asked to indicate the extent to which a series of statements described their feelings about the river on which they traveled. Overall, parties on Green River trips indicated slightly higher agreement with statements regarding their feelings about the river compared to parties on Colorado River/Cataract Canyon trips (tables L.1 and table L.2). Compared to private parties on Colorado River/Cataract Canyon trips, commercial parties consistently reported slightly lower ratings (tables L.3 and L.4).

Parties on Green River flatwater and Colorado River/Cataract Canyon trips also listed a variety of things they liked best about their river trip. The four most frequently reported best things for parties on Green flatwater trips were scenery, views, landscape (66 percent), solitude, peacefulness, quietness, isolation (65 percent), undeveloped river/area, being on the river (22 percent), and archeological or cultural sites (19 percent) (table L.5). Parties on Colorado River/Cataract Canyon trips listed scenery, views, landscape (54 percent), rapids, whitewater, scouting rapids (37 percent), solitude, peacefulness, quietness, isolation (36 percent), and comradery, bonding, interaction with others (20 percent).

Study participants were asked to list the three least favorite things about their river trip. Parties on both Green River flatwater and Colorado River/Cataract Canyon trips provided a wide array of answers. The four most frequently listed least favorite things for parties on Green River flatwater trips were insects (26 percent), motorized watercraft (25 percent), tamarisk (22 percent), and competition for campsites (21 percent) (table L.6). For Colorado River/Cataract Canyon trips, parties listed the weather (18 percent), motorized watercraft (18 percent), insects (14 percent), and low water or lack of rapids (13 percent).

Parties indicated high levels of satisfaction with their river trips. For both Green River flatwater and Colorado River/Cataract Canyon trips, more than 95 percent indicated they were either satisfied or very satisfied with their river trip (table L.7). Satisfaction levels were similar for both private and commercial parties on Colorado River/Cataract Canyon trips (table L.8).

M. Making Reservations or Obtaining Permits

More than half the permits or reservations made by parties for Green River flatwater or Colorado River/Cataract Canyon trips were made more than one month up to six months in advance (55 percent and 63 percent, respectively) (table M.1). For the Green River flatwater, a quarter were made more than one week up to one month in advance as compared to 14 percent for the Colorado River/Cataract Canyon. For Colorado River/Cataract Canyon trips, parties reported reserving permits or making reservations further in advance than parties on Green River flatwater trips. For Colorado River/Cataract Canyon, 19 percent of permits were reserved or reservations were made more than six months up to one year in advance. In general, private and commercial

parties on Colorado River/Cataract Canyon trips reserved their permits or made reservations about the same amount of time in advance (table M.2).

N. Open-ended Comments

The majority of study participants provided additional comments and suggestions about improving river use in Canyonlands National Park. Parties on Green River flatwater trips more frequently provided comments (83 percent) than parties on Colorado River/Cataract Canyon trips (66 percent) (table N.1). For Colorado River/Cataract Canyon trips, private parties more frequently gave comments (81 percent) than commercial parties (62 percent) (table N.2).

Literature Cited

- Warzecha, C. A., D. W. Lime, R. E. Manning, and W. A. Freimund. 1999a. Canyonlands National Park, 1998 Friendship Cruise Survey. Final report submitted to National Park Service, Canyonlands National Park. St. Paul, MN: Cooperative Park Studies Unit, University of Minnesota, College of Natural Resources.
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TABLES OF STUDY RESULTS

A. Response Rates and Comparison Between Respondents and Nonrespondents

Table A.1. Groups sampled and numbers of trip diaries and post-trip questionnaires distributed for three types of river trips in Canyonlands National Park, by private and commercial groups.

Type of river trip	Private		Commercial		Total	
	Groups sampled	Trip diaries and post-trip questionnaires distributed	Groups sampled	Trip diaries and post-trip questionnaires distributed	Groups sampled	Trip diaries and post-trip questionnaires distributed
	Number	Number	Number	Number	Number	Number
Green River flatwater	143	173	0	0	143	173
Colorado River flatwater & Cataract Canyon	75*	129	124	438	199	567
Green River flatwater & Cataract Canyon	19	26	15	42	34	68
Total	237	328	139	480	376	808

* Includes 16 flatwater only groups.

Table A.2. Trip diaries and post-trip questionnaires distributed and response rates for three types of river trips in Canyonlands National Park, by private and commercial parties.

Type of river trip	Private				Commercial				Total			
	Trip diary		Post-trip Questionnaire		Trip diary		Post-trip Questionnaire		Trip diary		Post-trip Questionnaire	
	N	%	N	%	N	%	N	%	N	%	N	%
Green River flatwater	173	76.9	173	83.2	0	0.0	0	0.0	173	76.9	173	83.2
Colorado River flatwater & Cataract Canyon	129	54.3	129	68.2	438	62.5	438	68.9	567	60.1	567	68.8
Green River flatwater & Cataract Canyon	26	65.4	26	73.1	42	66.7	42	76.2	68	66.2	68	75.0
Total	328	67.1	328	76.5	480	62.9	480	69.6	808	64.6	808	72.4

Table A.3. Response rate for groups who returned at least one *trip diary*, by private and commercial groups taking river trips in Canyonlands National Park.

Type of river trip	Private			Commercial		
	Groups surveyed	Groups with response≥1	Response rate	Groups surveyed	Groups with response≥1	Response rate
Green River flatwater	143	111	77.6	0	0	0.0
Colorado River flatwater & Cataract Canyon	75*	46	61.3	124	77	62.1
Green River flatwater & Cataract Canyon	19	11	57.9	15	11	73.3
Total	237	168	70.9	139	88	63.3

Source: Pre-trip form.

* Includes 16 flatwater only groups.

Table A.4. Response rate for groups who returned at least one *post-trip questionnaire*, by private and commercial groups taking river trips in Canyonlands National Park.

Type of river trip	Private			Commercial		
	Groups surveyed	Groups with response≥1	Response rate	Groups surveyed	Groups with response≥1	Response rate
Green River flatwater	143	122	85.3	0	0	0.0
Colorado River flatwater & Cataract Canyon	75*	57	76.0	124	84	67.7
Green River flatwater & Cataract Canyon	19	12	63.2	15	13	86.7
Total	237	191	80.6	139	97	69.8

Source: Pre-trip form.

* Includes 16 flatwater only groups.

Table A.5. Response rate for groups who returned at least *one trip diary or post-trip questionnaire*, by private and commercial groups taking river trips in Canyonlands National Park.

Type of river trip	Private			Commercial		
	Groups surveyed	Groups with response≥1	Response rate	Groups surveyed	Groups with response≥1	Response rate
Green River flatwater	143	124	86.7	0	0	0.0
Colorado River flatwater & Cataract Canyon	75*	57	76.0	124	86	69.4
Green River flatwater & Cataract Canyon	19	12	63.2	15	13	86.7
Total	237	193	81.4	139	99	71.2

Source: Pre-trip form.

* Includes 16 flatwater only groups.

Table A.6. Comparison between respondents and nonrespondents for three types of river trips in Canyonlands National Park.

Group characteristic	Respondents*		Nonrespondents**	
	N	%	N	%
Type of river user				
Commercial	99	33.9	40	47.6
Private	193	66.1	44	52.4
Type of river trip				
Green River flatwater	124	42.5	19	22.6
Colorado River flatwater & Cataract Canyon	143	48.9	56	66.7
Green River flatwater & Cataract Canyon	25	8.6	9	10.7
Type of watercraft				
Motorized***	99	34.6	40	47.6
Nonmotorized	186	65.0	43	51.2
Jetboat	1	0.3	1	1.2

* Group returned at least one trip diary or post-trip questionnaire.

** Group returned neither a trip diary nor post-trip questionnaire.

*** Group was considered motorized if at least one watercraft was a motorized raft

B. Characteristics of the River Trip

Table B.1. Type of river trip taken by groups who returned at least one diary or post-trip questionnaire per group, by private and commercial groups taking river trips in Canyonlands National Park.

Type of river trip	Private		Commercial		Total	
	N	%	N	%	N	%
Green River flatwater	124	100.0	0	0.0	124	100.0
Colorado River flatwater & Cataract Canyon	57	39.9	86	60.1	143	100.0
Green River flatwater & Cataract Canyon	12	48.0	13	52.0	25	100.0

Table B.2. Put-in sites for *private* groups on *Green River flatwater* trips in Canyonlands National Park.

Put-in site	N	%
Green River	9	7.3
Crystal Geyser	9	7.3
Ruby Ranch	20	16.1
Mineral Bottom	86	69.4
Total	124	100.0

Source: Pre-trip form.

Table B.3. Put-in sites for *private and commercial* groups on *Colorado River flatwater and Cataract Canyon* trips in Canyonlands National Park.

Put-in site	Private		Commercial	
	N	%	N	%
Potash	53	93.0	86	100.0
Gold Bar	3	5.3	0	0.0
Other	1	1.7	0	0.0
Total	57	100.0	86	100.0

Source: Pre-trip form.

Table B.4. Put-in sites for *private and commercial* groups on *Green River flatwater*

and Cataract Canyon trips in Canyonlands National Park.

Put-in site	Private		Commercial	
	N	%	N	%
Mineral Bottom	11	91.7	13	100.0
Other	1	8.3	0	0.0
Total	12	100.0	13	100.0

Source: Pre-trip form.

Table B.5. Take-out sites for *private* groups on *Green River flatwater* trips in Canyonlands National Park.

Take-out site	N	%
Confluence of Green and Colorado rivers	73	58.9
Spanish Bottom	51	41.1
Total	124	100.0

Source: Pre-trip form.

Table B.6. Take-out sites for *private and commercial* groups on *Colorado River flatwater and Cataract Canyon* trips in Canyonlands National Park.

Take-out site	Private		Commercial	
	N	%	N	%
Hite Marina	42	73.7	86	100.0
Confluence of Green and Colorado rivers	11	19.3	0	0.0
Spanish Bottom	2	3.5	0	0.0
Other	2	3.5	0	0.0
Total	57	100.0	86	100.0

Source: Pre-trip form.

Table B.7. Take-out sites for *private and commercial* groups on *Green River flatwater and Cataract Canyon* trips in Canyonlands National Park.

Take-out site	Private		Commercial	
	N	%	N	%
Hite Marina	11	91.7	13	100.0
Other	1	8.3	0	0.0
Total	12	100.0	13	100.0

Source: Pre-trip form.

Table B.8. Group size for *private* groups on *Green River flatwater* trips in Canyonlands National Park.

Group size (number of people)	N	%
1	9	7.5
2	50	41.7
3	6	5.0
4	20	16.7
5	10	8.3
6	5	4.2
7	3	2.5
8	6	5.0
9	3	2.5
10	3	2.5
11-15	3	2.5
16-20	1	0.8
21-25	1	0.8
26-30	0	0.0
31-38	0	0.0
Total	120	100.0

Source: Pre-trip form.

Mean = 4.1 people per group

Median = 3.0 people per group

Table B.9. Group size for *private and commercial* groups on *Colorado River flatwater and Cataract Canyon* trips in Canyonlands National Park.

Group size (number of people)	Private		Commercial	
	N	%	N	%
1	0	0.0	0	0.0
2	11	20.4	1	1.2
3	1	1.8	1	1.2
4	7	13.0	6	7.1
5	0	0.0	7	8.3
6	3	5.6	6	7.1
7	2	3.7	3	3.6
8	2	3.7	4	4.8
9	1	1.8	3	3.6
10	2	3.7	4	4.8
11-15	13	24.1	25	29.8
16-20	5	9.3	11	13.1
21-25	5	9.3	3	3.6
26-30	2	3.7	5	6.0
31-38	0	0.0	5	6.0
Total	54	100.0	84	100.0

Source: Pre-trip form.

Mean (private) = 10.4 people per group
Median (private) = 9.5 people per group

Mean (commercial) = 13.2 people per group
Median (commercial) = 12.0 people per group

Table B.10. Group size for *private and commercial* groups on *Green River flatwater and Cataract Canyon* trips in Canyonlands National Park.

Group size (number of people)	Private		Commercial	
	N	%	%	%
1	1	8.3	0	0.0
2	2	16.7	0	0.0
3	1	8.3	0	0.0
4	2	16.7	0	0.0
5	0	0.0	0	0.0
6	1	8.3	1	8.3
7	1	8.3	2	16.7
8	3	25.0	2	16.7
9	0	0.0	2	16.7
10	0	0.0	1	8.3
11-15	1	8.3	3	25.0
16-20	0	0.0	1	8.3
21-25	0	0.0	0	0.0
26-30	0	0.0	0	0.0
31-38	0	0.0	0	0.0
Total	12	100.0	12	100.0

Source: Pre-trip form.

Mean (private) = 5.3 people per group
Median (private) = 5.0 people per group

Mean (commercial) = 10.2 people per group
Median (commercial) = 9.0 people per group

Table B.11. Expected length of stay (nights) for *private* groups on *Green River flatwater* trips in Canyonlands National Park, by the river on which groups camped.

Number of nights	Green River		Colorado River	
	N	%	N	%
1	0	0.0	52	94.5
2	5	4.1	3	5.5
3	23	18.7	0	0.0
4	28	22.8	0	0.0
5	25	20.3	0	0.0
6	15	12.2	0	0.0
7	9	7.3	0	0.0
8	9	7.3	0	0.0
9	4	3.3	0	0.0
10	0	0.0	0	0.0
11 or more nights	5	4.0	0	0.0
Total	123	100.0	55	100.0

Source: Pre-trip form.

Mean (Green River) = 5.2 nights
Median (Green River) = 5.0 nights

Mean (Colorado River) = 1.1 nights
Median (Colorado River) = 1.0 nights

Table B.12. Expected length of stay (nights) for *private and commercial* groups on *Colorado River flatwater and Cataract Canyon* trips in Canyonlands National Park.

Number of nights	Type of river user			
	Private		Commercial	
	N	%	N	%
1	1	1.8	2	2.4
2	12	21.1	20	23.5
3	17	29.8	34	40.0
4	14	24.6	15	17.6
5	7	12.3	8	9.4
6	2	3.5	5	5.9
7	2	3.5	1	1.2
8	1	1.8	0	0.0
9	0	0.0	0	0.0
10	1	1.8	0	0.0
Total	57	100.0	85	100.0

Source: Pre-trip form.

Mean (private) = 3.7 nights
Median (private) = 3.0 nights

Mean (commercial) = 3.3 nights
Median (commercial) = 3.0 nights

Table B.13. Expected length of stay (nights) for *private and commercial* groups on *Green River flatwater and Cataract Canyon* trips in Canyonlands National Park, by river on which groups camped.

Number of nights	Green River flatwater		Colorado River or Cataract Canyon	
	N	%	N	%
1	3	12.5	4	17.4
2	6	25.0	12	52.2
3	7	29.2	3	13.0
4	4	16.7	2	8.7
5	1	4.2	2	8.7
6	3	12.5	0	0.0
7	0	0.0	0	0.0
8	0	0.0	0	0.0
9	0	0.0	0	0.0
10	0	0.0	0	0.0
Total	24	100.0	23	100.0

Source: Pre-trip form.

Mean (Green River flatwater) = 3.1 nights Mean (Colorado River/Cataract Canyon) = 2.4 nights
Median (Green River flatwater) = 3.0 nights Median (Colorado River/Cataract Canyon) = 2.0 nights

Table B.14. Type of watercraft used by *private* groups on *Green River flatwater* trips in Canyonlands National Park.

Type of watercraft	Private	
	N	%
Canoe or kayak	114	92.7
Nonmotorized raft	3	2.4
Mixed nonmotorized	5	4.1
Motorized raft	1	0.8
Total	123	100.0

Source: Pre-trip form.

Table B.15. Type of watercraft used by *private and commercial* groups on *Colorado River flatwater and Cataract Canyon* trips in Canyonlands National Park.

Type of watercraft	Private		Commercial	
	N	%	N	%
Canoe or kayak	12	22.2	0	0.0
Nonmotorized raft	10	18.5	16	18.8
Mixed nonmotorized	11	20.4	2	2.4
Motorized raft	20	37.0	67	78.8
Jetboat	1	1.9	0	0.0
Total	54	100.0	85	100.0

Source: Pre-trip form.

Table B.16. Type of watercraft used by *private and commercial* groups on *Green River flatwater and Cataract Canyon* trips in Canyonlands National Park.

Type of watercraft	Private		Commercial	
	N	%	N	%
Canoe or kayak	2	16.7	0	0.0
Nonmotorized raft	4	33.3	4	33.3
Mixed nonmotorized	3	25.0	0	0.0
Motorized raft	3	25.0	8	66.7
Total	12	100.0	12	100.0

Source: Pre-trip form.

Table B.17. Means by which group left the river after the conclusion of the river trip, by type of river trip.

Means of transportation	Green River flatwater		Colorado River flatwater & Cataract Canyon		Green River flatwater & Cataract Canyon	
	N	%	N	%	N	%
Jetboat shuttle to Potash	123	100.0	15	10.8	0	0.0
Airplane	0	0.0	67	48.2	7	31.8
Ride back to own vehicle	0	0.0	15	10.8	5	22.7
Drive own vehicle that was shuttled to take-out point	0	0.0	41	29.5	10	45.5
Other	0	0.0	1	0.7	0	0.0
Total	123	100.0	139	100.0	22	100.0

Source: Pre-trip form.

C. Characteristics of Parties and Party Leaders

Table C.1. Type of river trip taken by party whose party leader returned either a trip diary *or* post-trip questionnaire, by private and commercial parties.

Type of river trip	Private		Commercial		Total	
	N	%	N	%	N	%
Green River flatwater	146	57.7	0	0.0	146	100.0
Colorado River flatwater & Cataract Canyon	88	22.1	310	77.9	398	100.0
Green River flatwater & Cataract Canyon	19	37.3	32	62.7	51	100.0

Source: Trip diary and post-trip questionnaire.

Table C.2. Party size of *private* parties traveling on the *Green River flatwater* in Canyonlands National Park.

Party size (number of people)	Private	
	N	%
1	10	7.5
2	66	49.6
3	7	5.3
4	24	18
5	10	7.5
6	7	5.3
7	1	0.8
8	4	3.0
9	2	1.5
10	1	0.8
11-15	1	0.8
Total	133	100.0

Source: Pre-trip form.

Mean = 3.2 people per party

Median = 2.0 people per party

Table C.3. Party size of *private and commercial* parties traveling on the *Colorado River flatwater and Cataract Canyon* in Canyonlands National Park.

Party size (number of people)	Private		Commercial	
	N	%	N	%
1	2	2.9	46	15.9
2	14	20.6	111	38.4
3	6	8.8	40	13.8
4	12	17.6	33	11.4
5	2	2.9	18	6.2
6	7	10.3	21	7.3
7	3	4.4	8	2.8
8	3	4.4	1	0.3
9	1	1.5	3	1.0
10	2	2.9	1	0.3
11-15	8	11.8	6	2.1
16-20	4	5.9	1	0.3
21-27	4	5.9	0	0.0
Total	68	100.0	289	100.0

Source: Pre-trip form.

Mean (private) = 7.1 people per party
Median (private) = 4.5 people per party

Mean (commercial) = 3.2 people per party
Median (commercial) = 2.0 people per party

Table C.4. Party size of *private and commercial* parties traveling on the *Green River flatwater and Cataract Canyon* in Canyonlands National Park.

Party size (number of people)	Private		Commercial	
	N	%	N	%
1	1	5.6	5	20.8
2	4	22.2	9	37.5
3	3	16.7	2	8.3
4	3	16.7	4	16.7
5	0	0.0	2	8.3
6	0	0.0	0	0.0
7	3	16.7	0	0.0
8	2	11.1	1	4.2
9	0	0.0	1	4.2
10	1	5.6	0	0.0
11-15	1	5.6	0	0.0
Total	18	100.0	24	100.0

Source: Pre-trip form.

Mean (private) = 4.9 people per party
Median (private) = 4.0 people per party

Mean (commercial) = 3.0 people per party
Median (commercial) = 2.0 people per party

Table C.5. State of residence for party leaders who returned either a trip diary or post-trip questionnaire, by type of river trip in Canyonlands National Park.

State of residence	Green River flatwater		Colorado River flatwater & Cataract Canyon		Green River flatwater & Cataract Canyon	
	N	%	N	%	N	%
Alabama	0	0.0	4	1.1	0	0.0
Arizona	10	7.1	9	2.4	1	2.1
California	22	15.6	32	8.6	8	16.7
Colorado	36	25.5	48	12.9	7	14.5
Connecticut	1	0.7	0	0.0	1	2.1
Connecticut	0	0.0	4	1.1	0	0.0
Delaware	0	0.0	1	0.3	0	0.0
District of Columbia	0	0.0	1	0.3	1	2.1
Florida	4	2.8	13	3.5	0	0.0
Georgia	1	0.7	2	0.5	0	0.0
Hawaii	0	0.0	1	0.3	0	0.0
Idaho	0	0.0	1	0.3	1	2.1
Illinois	5	3.5	15	4.0	0	0.0
Indiana	1	1.4	1	0.3	1	2.1
Iowa	1	0.7	3	0.8	0	0.0
Kansas	0	0.0	1	0.3	0	0.0
Kentucky	0	0.0	2	0.5	1	2.1
Louisiana	0	0.0	0	0.0	1	2.1
Maine	1	0.7	0	0.0	0	0.0
Maryland	0	0.0	8	2.1	0	0.0
Massachusetts	3	2.1	12	3.2	0	0.0
Michigan	1	0.7	10	2.7	0	0.0
Minnesota	0	0.0	8	2.1	1	2.1
Missouri	0	0.0	8	2.1	1	2.1
Montana	2	1.4	2	0.5	0	0.0
Nebraska	0	0.0	1	0.3	0	0.0
Nevada	1	0.7	4	1.1	0	0.0

Table C.5. (continued)

State of residence	Green River flatwater		Colorado River flatwater & Cataract Canyon		Green River flatwater & Cataract Canyon	
	N	%	N	%	N	%
New Hampshire	0	0.0	1	0.3	0	0.0
New Jersey	0	0.0	8	2.1	1	2.1
New Mexico	3	2.1	11	2.9	1	2.1
New York	6	4.3	18	4.8	0	0.0
North Carolina	1	0.7	4	1.1	0	0.0
Ohio	1	0.7	6	1.6	2	4.2
Oklahoma	0	0.0	1	0.3	0	0.0
Oregon	9	6.4	10	2.7	0	0.0
Pennsylvania	2	1.4	4	1.1	2	4.2
South Carolina	0	0.0	1	0.3	0	0.0
South Dakota	0	0.0	1	0.3	0	0.0
Tennessee	0	0.0	4	1.1	0	0.0
Texas	2	1.4	11	2.9	1	2.1
Utah	14	9.9	83	22.3	12	25.0
Virginia	3	2.1	5	1.3	1	2.1
Washington	7	5.0	8	2.1	2	4.2
West Virginia	1	0.7	0	0.0	0	0.0
Wisconsin	2	1.4	5	1.3	1	2.1
Wyoming	0	0.0	2	0.5	1	2.1
Total	141	100.0	373	100.0	48	100.0

Source: Pre-trip form.

D. Motives for Taking the River Trip

Table D.1. Importance of experiences sought by respondents, by type of river trip.

Experience sought	Green River flatwater			Colorado River/Cataract Canyon			Green River/Cataract Canyon		
	N*	Mean**	Std. dev.	N*	Mean**	Std. dev.	N*	Mean**	Std. dev.
To be on my own	127	3.6	1.2	326	2.4	1.3	42	3.0	1.4
To use my equipment	127	2.3	1.2	322	1.8	1.2	42	2.2	1.4
To experience an undeveloped river	127	4.6	0.7	325	4.0	1.1	42	4.2	1.0
To do something with my family	126	3.4	1.6	322	3.6	1.5	41	3.3	1.5
To be with members of my group	121	3.5	1.4	316	3.2	1.4	41	3.2	1.5
To meet new people	126	1.5	0.9	323	2.7	1.2	42	2.4	1.2
To learn more about things on the river	124	3.5	1.0	323	3.8	0.9	42	3.8	1.0
To test my skills and abilities	126	2.8	1.2	323	3.0	1.2	42	3.0	1.4
To enjoy views of the river	127	4.7	0.5	326	4.7	0.6	41	4.7	0.6
To think about my personal values	125	3.3	1.3	323	3.0	1.3	42	3.1	1.3
To be close to nature	126	4.6	0.6	326	4.1	0.8	42	4.5	0.7
To be creative by doing something such as sketching, painting, taking photographs	127	2.7	1.3	322	2.5	1.3	42	2.7	1.4
To be away from other people	127	4.1	1.1	325	3.1	1.3	42	3.7	1.5
To get exercise	127	3.2	1.1	326	3.0	1.1	42	3.5	0.9
To relax physically	127	3.7	1.2	325	3.7	1.1	42	3.9	1.0
To experience solitude	127	4.2	1.0	326	3.6	1.2	42	4.0	1.1
To have thrills and excitement	126	2.3	1.2	326	4.1	1.0	42	3.5	1.1
To be away from my family for a little while	125	1.7	1.2	320	1.7	1.2	41	1.6	1.0
To share my skills and knowledge with others	125	1.8	1.0	324	2.1	1.2	42	2.2	1.2
To experience some very wild country	127	4.3	0.9	327	4.1	0.9	42	4.1	1.0
To see archeological sites	127	3.6	1.1	323	3.5	1.1	42	3.7	1.1
To take a challenging river trip	125	2.6	1.3	327	4.1	1.0	42	3.8	1.0
To take an easy river trip	124	3.3	1.2	320	2.0	1.2	42	2.6	1.3

Source: Trip diary.

* Based on number of respondents who completed both a trip diary AND a post-trip questionnaire.

** Responses based on a five point scale: 1= not at all important, 2=slightly important, 3= moderately important, 4=very important, 5=extremely important.

Table D.2. Importance of experiences sought by respondents on *Colorado River/Cataract Canyon* trips, by private and commercial parties.

Experience sought	Private			Commercial		
	N*	Mean**	Std. dev.	N*	Mean**	Std. dev.
To be on my own	68	2.9	1.5	258	2.2	1.3
To use my equipment	68	2.8	1.4	254	1.5	1.0
To experience an undeveloped river	69	4.3	0.9	256	4.0	1.1
To do something with my family	66	3.6	1.4	256	3.6	1.5
To be with members of my group	66	4.0	1.0	250	3.0	1.4
To meet new people	69	2.5	1.3	254	2.8	1.2
To learn more about things on the river	67	3.7	1.0	256	3.8	0.9
To test my skills and abilities	68	3.5	1.2	255	2.9	1.2
To enjoy views of the river	69	4.7	0.5	257	4.7	0.6
To think about my personal values	68	3.0	1.3	255	3.1	1.3
To be close to nature	69	4.4	0.8	257	4.4	0.8
To be creative by doing something such as sketching, painting, taking photographs	67	2.2	1.2	255	2.6	1.3
To be away from other people	69	3.5	1.4	256	3.0	1.3
To get exercise	69	3.0	1.0	257	2.9	1.1
To relax physically	67	3.6	1.2	258	3.7	1.1
To experience solitude	68	3.9	1.2	258	3.5	1.2
To have thrills and excitement	69	3.9	1.1	257	4.2	0.9
To be away from my family for a little while	67	1.5	1.0	253	1.8	1.2
To share my skills and knowledge with others	68	2.5	1.3	256	2.0	1.2
To experience some very wild country	69	4.1	0.9	258	4.1	0.9
To see archeological sites	67	3.4	1.1	256	3.6	1.1
To take a challenging river trip	69	4.0	1.1	258	4.2	0.9
To take an easy river trip	66	2.5	1.3	254	1.9	1.1

Source: Trip diary.

* Based on number of respondents who completed both a trip diary AND a post-trip questionnaire.

** Responses based on a 5-point scale: 1= not at all important, 2=slightly important, 3= moderately important, 4=very important, 5=extremely important.

Table D.3. Importance of experiences sought by respondents on *Green River/Cataract Canyon* trips, by private and commercial parties.

Experience sought	Private			Commercial		
	N*	Mean**	Std. dev.	N*	Mean**	Std. dev.
To be on my own	16	4.0	1.0	26	2.4	1.4
To use my equipment	16	3.4	1.3	26	1.5	1.0
To experience an undeveloped river	16	4.5	1.0	26	4.0	1.0
To do something with my family	16	3.3	1.2	25	3.3	1.7
To be with members of my group	16	3.8	1.0	25	2.9	1.6
To meet new people	16	1.9	1.1	26	2.8	1.2
To learn more about things on the river	16	3.9	1.0	26	3.7	0.9
To test my skills and abilities	16	3.8	0.8	26	2.6	1.4
To enjoy views of the river	16	4.9	0.3	25	4.6	0.7
To think about my personal values	16	3.8	1.1	26	2.8	1.3
To be close to nature	16	4.6	0.6	26	4.5	0.7
To be creative by doing something such as sketching, painting, taking photographs	16	3.1	1.2	26	2.5	1.5
To be away from other people	16	4.8	0.4	26	3.0	1.5
To get exercise	16	3.5	0.7	26	3.4	0.9
To relax physically	16	4.1	0.9	26	3.8	1.1
To experience solitude	16	4.7	0.5	26	3.6	1.2
To have thrills and excitement	16	3.5	1.3	26	3.5	1.0
To be away from my family for a little while	16	1.9	1.2	25	1.4	0.8
To share my skills and knowledge with others	16	2.6	1.2	26	1.9	1.1
To experience some very wild country	16	4.4	0.8	26	4.0	1.1
To see archeological sites	16	4.0	0.9	26	3.5	1.1
To take a challenging river trip	16	3.7	1.2	26	3.8	0.9
To take an easy river trip	16	2.8	1.0	26	2.4	1.4

Source: Trip diary.

* Based on number of respondents who completed both a trip diary AND a post-trip questionnaire.

** Responses based on a 5-point scale: 1= not at all important, 2=slightly important, 3= moderately important, 4=very important, 5=extremely important.

E. Attainment of Motives

Table E.1. Attainment of experiences sought by respondent, by type of river trip.

Experience sought	Green River flatwater			Colorado River/Cataract Canyon			Green River/Cataract Canyon		
	N*	Mean**	Std. dev.	N*	Mean**	Std. dev.	N*	Mean**	Std. dev.
To be on my own	124	3.2	0.9	312	2.4	1.1	37	3.1	1.1
To use my equipment	113	3.4	0.9	292	2.5	1.2	36	3.1	1.1
To experience an undeveloped river	124	3.7	0.6	320	3.4	0.8	40	3.8	0.4
To do something with my family	113	3.1	1.3	301	3.1	1.3	37	2.8	1.4
To be with members of my group	119	3.3	1.1	307	3.4	1.0	37	3.4	0.9
To meet new people	107	1.9	1.0	313	3.2	0.9	39	2.7	1.1
To learn more about things on the river	126	3.2	0.8	321	3.5	0.7	40	3.4	0.8
To test my skills and abilities	118	2.9	0.8	317	2.9	0.9	37	3.2	1.0
To enjoy views of the river	126	3.9	0.3	324	3.9	0.4	40	3.9	0.4
To think about my personal values	120	2.9	1.0	313	2.9	1.0	37	3.1	0.9
To be close to nature	124	3.8	0.4	322	3.6	0.7	40	3.8	0.4
To be creative by doing something such as sketching, painting, taking photographs	119	2.6	1.1	305	2.3	1.1	36	2.5	1.2
To be away from other people	124	3.2	0.8	312	2.6	1.1	38	3.3	0.9
To get exercise	124	3.1	0.8	317	2.8	0.9	40	3.3	1.0
To relax physically	122	3.1	0.9	321	3.1	1.0	40	3.7	0.5
To experience solitude	126	3.2	0.9	315	2.8	1.1	39	3.2	1.0
To have thrills and excitement	116	2.3	0.9	320	3.4	0.8	40	3.5	0.7
To be away from my family for a little while	107	2.0	1.2	280	2.1	1.2	33	2.1	1.3
To share my skills and knowledge with others	107	2.2	1.0	296	2.3	1.1	36	2.6	0.9
To experience some very wild country	122	3.4	0.7	321	3.3	0.8	40	3.6	0.6
To see archeological sites	123	2.9	1.0	320	2.9	0.9	40	3.2	0.8
To take a challenging river trip	113	2.3	1.0	321	3.2	0.8	40	3.4	0.9
To take an easy river trip	120	3.3	0.9	298	2.4	1.1	37	2.8	1.1

Source: Question 1 of post-trip questionnaire.

* Based on number of respondents who completed both a trip diary AND a post-trip questionnaire.

** Responses based on a 4-point scale: 1=not at all attained, 2= somewhat attained, 3=moderately attained, 4=highly attained.

Table E.2. Attainment of experiences sought by respondents on *Colorado River/Cataract Canyon* trips, by private and commercial parties.

Experience sought	Private			Commercial		
	N*	Mean**	Std. dev.	N*	Mean**	Std. dev.
To be on my own	67	2.8	1.0	245	2.4	1.1
To use my equipment	66	3.4	1.0	226	2.2	1.2
To experience an undeveloped river	68	3.5	0.7	252	3.4	0.9
To do something with my family	64	3.0	1.3	237	3.1	1.3
To be with members of my group	67	3.6	0.8	240	3.3	1.0
To meet new people	65	2.7	1.1	248	3.4	0.9
To learn more about things on the river	65	3.2	0.8	256	3.5	0.6
To test my skills and abilities	67	3.2	0.7	250	2.8	1.0
To enjoy views of the river	68	3.9	0.4	256	3.9	0.4
To think about my personal values	66	2.8	1.1	247	2.9	1.0
To be close to nature	67	3.6	0.7	255	3.7	0.6
To be creative by doing something such as sketching, painting, taking photographs	64	1.9	1.0	241	2.4	1.1
To be away from other people	66	2.8	1.1	246	2.6	1.1
To get exercise	66	2.9	0.9	251	2.8	0.9
To relax physically	67	3.1	1.0	254	3.1	0.9
To experience solitude	68	3.0	0.9	247	2.7	1.1
To have thrills and excitement	67	3.3	0.8	253	3.4	0.8
To be away from my family for a little while	58	1.9	1.2	222	2.1	1.2
To share my skills and knowledge with others	65	2.6	1.0	231	2.2	1.1
To experience some very wild country	67	3.3	0.7	254	3.3	0.8
To see archeological sites	65	2.5	1.0	255	3.0	0.9
To take a challenging river trip	67	3.3	0.8	254	3.2	0.8
To take an easy river trip	65	2.3	1.1	233	2.4	1.1

Source: Question 1 of post-trip questionnaire.

* Based on number of respondents who completed both a trip diary AND a post-trip questionnaire.

** Responses based on a 4-point scale: 1=not at all attained, 2= somewhat attained, 3=moderately attained, 4=highly attained.

Table E.3. Attainment of experiences sought by respondents on *Green River/Cataract Canyon* trips, by private and commercial river users.

Experience sought	Private			Commercial		
	N*	Mean**	Std. dev.	N*	Mean**	Std. dev.
To be on my own	15	3.6	0.7	22	2.8	1.2
To use my equipment	15	3.7	0.7	21	2.6	1.1
To experience an undeveloped river	15	3.8	0.4	25	3.8	0.5
To do something with my family	14	2.5	1.4	23	3.0	1.4
To be with members of my group	14	3.6	0.7	23	3.2	1.0
To meet new people	15	2.1	1.0	24	3.1	1.1
To learn more about things on the river	15	3.5	0.6	25	3.3	0.9
To test my skills and abilities	15	3.5	0.9	22	3.0	1.0
To enjoy views of the river	15	3.9	0.3	25	3.9	0.4
To think about my personal values	15	3.7	0.5	22	2.8	1.0
To be close to nature	15	3.9	0.4	25	3.8	0.4
To be creative by doing something such as sketching, painting, taking photographs	15	2.7	1.0	21	2.3	1.2
To be away from other people	15	3.7	0.7	23	3.1	0.9
To get exercise	15	3.4	0.8	25	3.2	1.0
To relax physically	15	3.9	0.4	25	3.5	0.6
To experience solitude	15	3.5	0.7	24	2.9	1.1
To have thrills and excitement	15	3.5	0.8	25	3.6	0.6
To be away from my family for a little while	12	2.4	1.2	21	1.9	1.3
To share my skills and knowledge with others	14	3.1	0.8	22	2.3	0.9
To experience some very wild country	15	3.8	0.4	25	3.5	0.7
To see archeological sites	15	3.4	0.6	25	3.0	0.9
To take a challenging river trip	15	3.4	0.8	25	3.3	0.9
To take an easy river trip	14	3.5	0.7	23	2.4	1.1

Source: Question 1 of post-trip questionnaire.

* Based on number of respondents who completed both a trip diary AND a post-trip questionnaire.

** Responses based on a 4-point scale: 1=not at all attained, 2= somewhat attained, 3=moderately attained, 4=highly attained.

F. Acceptability of Campsite Encounters

Table F.1. Days of diary information collected for camping encounter zones in Canyonlands National Park, by private and commercial parties.

Campsite encounter zone	Private		Commercial		Total	
	N	%	N	%	N	%
Green River flatwater	533	89.6	62	10.4	595	100.0
Colorado River flatwater	212	36.2	373	63.8	585	100.0
Cataract Canyon	55	14.9	315	85.1	370	100.0
Lake Powell	44	17.7	205	82.3	249	100.0

Source: Trip diary.

Table F.2. Number of groups (on other trips) camped within sight and sound of party's campsite, by campsite encounter zone.

Number of groups camped within sight and sound	Green River flatwater		Colorado River flatwater		Cataract Canyon		Lake Powell	
	N	%	N	%	N	%	N	%
0	418	70.6	458	79.2	273	74.2	153	62.4
1	127	21.5	87	15.1	74	20.1	77	31.4
2	33	5.5	21	3.6	18	4.9	9	3.7
3	7	1.2	9	1.6	2	0.5	6	2.4
4	3	0.5	2	0.3	1	0.3	0	0.0
5	3	0.5	1	0.2	0	0.0	0	0.0
6 or more	1	0.2	0	0.0	0	0.0	0	0.0
Total	592	100.0	578	100.0	368	100.0	245	100.0

Source: Question 2 of trip diary.

Table F.3. Visitor response to the number of groups camped within sight and sound of group's campsite, by *all* parties.

Campsite encounter zone	Number of groups			Acceptability			Percent of respondents for each level of acceptability**									
	N*	mean	med	N*	mean	std dev	Very unacceptable					Very acceptable				
							-4	-3	-2	-1	0	+1	+2	+3	+4	
Green River flatwater	592	0.4	0	566	2.9	2.2	3.7	1.5	1.8	2.0	4.9	3.4	5.0	7.6	65.2	
Colorado River flatwater	578	0.3	0	547	3.0	2.0	3.3	0.9	1.5	2.6	5.9	2.0	4.0	5.9	74.0	
Cataract Canyon	368	0.3	0	342	3.0	2.0	3.5	0.6	1.5	1.8	6.1	2.9	5.8	8.2	69.6	
Lake Powell	245	0.5	0	226	2.7	2.3	4.9	1.8	1.8	2.7	5.3	2.7	6.2	11.5	63.3	

Source: Question 2 of trip diary.

* Number of respondents answering the question.

** Responses based on a scale from -4 (very unacceptable) to +4 (very acceptable).

Table F.4. Visitor response to the number of groups camped within sight and sound of group's campsite, by *private* parties.

Campsite encounter zone	Number of groups			Acceptability			Percent of respondents for each level of acceptability**									
	N*	mean	med	N*	mean	std dev	Very unacceptable					Very acceptable				
							-4	-3	-2	-1	0	+1	+2	+3	+4	
Green River flatwater	530	0.4	0	510	2.8	2.2	3.7	1.8	2.2	2.4	5.1	3.5	5.7	7.8	67.8	
Colorado River flatwater	211	0.4	0	207	3.1	1.9	1.9	1	2.4	3.4	3.9	1.4	4.8	8.2	72.9	
Cataract Canyon	55	0.4	0	52	3.5	1.0	0.0	0.0	0.0	0.0	3.8	3.8	5.8	7.7	78.8	
Lake Powell	44	0.7	1.0	42	2.4	2.5	9.5	0.0	0.0	4.8	4.8	0.0	14.3	9.5	57.1	

Source: Question 2 of trip diary.

* Number of respondents answering the question.

** Responses based on a scale from -4 (very unacceptable) to +4 (very acceptable).

Table F.5. Visitor response to the number of groups camped within sight and sound of group's campsite, by *commercial* parties.

Campsite encounter zone	Number of groups			Acceptability			Percent of respondents for each level of acceptability**									
	N*	mean	med	N*	mean	std dev	Very unacceptable					Very acceptable				
							-4	-3	-2	-1	0	+1	+2	+3	+4	
Green River flatwater	62	0.2	0	56	3.1	2.0	5.4	0.0	0.0	0.0	5.4	3.6	1.6	8.1	67.7	
Colorado River flatwater	367	0.2	0	340	3.0	2.1	4.1	0.9	0.9	2.1	7.1	2.4	3.5	4.4	74.7	
Cataract Canyon	313	0.3	0	290	2.9	2.1	4.1	0.7	1.7	2.1	6.6	2.8	5.9	8.3	67.9	
Lake Powell	201	.04	0	184	2.8	2.2	3.8	2.2	2.2	2.2	5.4	3.3	4.3	12.0	64.7	

Source: Question 2 of trip diary.

* Number of respondents answering the question.

** Responses based on a scale from -4 (very unacceptable) to +4 (very acceptable).

G. Acceptability of River Encounters

Table G.1. Days of information collected for river encounter zones in Canyonlands National Park, by private and commercial parties.

River encounter zone	Private		Commercial		Total	
	N	%	N	%	N	%
Green River flatwater	588	89.0	73	11.0	661	100.0
Colorado River flatwater	192	31.0	427	69.0	619	100.0
Cataract Canyon	44	25.6	128	74.4	172	100.0
Lake Powell	29	16.8	144	83.2	173	100.0

Source: Trip diary.

Table G.2. Number of hours party spent traveling on the river on a specific diary day, by river encounter zone.

Number of hours	Green River flatwater		Colorado River flatwater		Cataract Canyon		Lake Powell	
	N	%	N	%	N	%	N	%
0*	42	6.5	14	2.3	0	10.0	4	2.5
1	23	3.6	9	1.5	7	4.1	1	0.6
2	58	9.0	14	2.3	22	12.9	3	1.9
3	108	16.7	18	3.0	34	20.0	24	15.1
4	129	19.9	59	9.8	22	12.9	37	23.3
5	103	15.9	84	14.0	20	11.8	30	18.9
6	108	16.7	162	27.0	25	14.7	29	18.2
7	35	5.4	119	19.8	8	4.7	12	7.5
8	25	3.9	91	15.1	9	5.3	11	6.9
9	7	1.1	21	3.5	1	0.6	2	1.3
10	6	0.9	4	0.7	2	1.2	5	3.1
11 or more	3	0.5	6	1.0	3	1.8	1	0.6
Total	647	100.0	601	100.0	170	100.0	159	100.0

Source: Question 3 of trip diary.

* Camped at same campsite and did not travel on the river that day.

Mean = 4.2 hours (Green River flatwater)

Mean = 6.0 hours (Colorado River flatwater)

Mean = 4.1 hours (Cataract Canyon)

Mean = 5.1 hours (Lake Powell)

Table G.3. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *all* parties on the *Green flatwater*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number	Something else** *	Both**	
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	651	0.7	0	430	1.8	3.0	13.3	2.6	5.1	3.3	7.4	1.6	4.0	5.1	57.7	103	7.8	83.5	8.7
Rafts, w/o motor	645	1.2	0	427	2.7	2.1	4.0	0.5	2.8	2.8	5.9	3.7	8.4	10.5	61.4	41	26.8	53.7	19.5
Canoes and kayaks	651	3.5	3	571	2.5	2.0	1.8	1.2	2.5	4.0	8.9	5.6	11.9	17.0	47.1	52	48.1	32.7	19.2
Jetboats	644	0.1	0	304	3.4	1.8	3.6	0.7	0.7	0.0	4.6	0.3	1.6	4.3	84.2	15	26.7	73.3	0.0
Other	639	0.1	0	249	3.4	1.6	2.0	0.8	0.0	1.2	5.2	0.4	1.2	4.8	84.3	10	0.0	100.0	0.0
Total number of ALL types of watercraft seen	648	5.5	5	509	1.9	2.4	5.7	2.2	4.3	5.3	9.0	6.3	11.0	15.9	40.3	97	32.0	43.3	24.7

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.4. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *private* parties on the *Green flatwater*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number	Somet hing else** *	Both ***	
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	579	0.7	0	382	1.7	3.1	14.4	2.9	5.2	3.4	6.5	1.6	3.9	4.7	57.3	97	8.2	82.5	9.3
Rafts, w/o motor	574	1.1	0	376	2.7	2.2	4.5	0.5	2.7	3.2	5.1	4.3	9.3	10.4	60.1	39	25.6	53.8	20.5
Canoes and kayaks	580	3.6	3	506	2.4	2.0	1.8	1.4	2.6	4.5	8.9	5.7	12.5	16.4	46.2	50	48.0	32.0	20.0
Jetboats	573	0.1	0	269	3.4	1.7	3.0	0.4	0.7	0.0	3.7	0.4	1.5	4.8	85.5	12	33.3	66.7	0.0
Other	568	0.1	0	222	3.5	4.0	1.8	0.9	0.0	1.4	4.1	0.5	0.9	5.4	85.1	8	0.0	100	0.0
Total number of ALL types of watercraft seen	577	5.6	5	458	1.9	2.5	6.1	2.2	4.8	5.2	9.2	6.3	11.6	15.5	39.1	91	31.9	42.9	25.3

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.5. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *commercial* parties on the *Green River flatwater*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number	Something else** *	Both**	
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	72	0.5	0	48	2.5	2.3	4.2	0.0	4.2	2.1	14.6	2.1	4.2	8.3	60.4	6	0.0	100	0.0
Rafts, w/o motor	71	1.5	0	51	3.1	1.7	0.0	0.0	3.9	0.0	11.8	0.0	2.0	11.8	70.6	2	50.0	50.0	0.0
Canoes and kayaks	71	2.9	2	65	2.9	1.7	1.5	0.0	1.5	0.0	9.2	4.6	7.7	21.5	53.8	2	50.0	50.0	0.0
Jetboats	71	0.2	0	35	2.6	2.7	8.6	2.9	0.0	0.0	11.4	0.0	2.9	0.0	74.3	3	0.0	100	0.0
Other	71	0.1	0	27	3.0	2.0	3.7	0.0	0.0	0.0	14.8	0.0	3.7	0.0	77.8	2	0.0	100	0.0
Total number of ALL types of watercraft seen	71	5.2	4	51	2.6	2.0	2.0	2.0	0.0	5.9	7.8	5.9	5.9	19.6	51.0	6	33.3	50.0	16.7

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.6. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *all* parties on the *Colorado River flatwater*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number	Some thing else** *	Both**	%
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4				
Rafts, with motor	598	2.4	2	521	1.8	2.5	5.8	2.9	5.2	5.0	11.7	5.8	11.3	13.1	39.3	97	22.7	60.8	16.5
Rafts, w/o motor	590	1.9	0	440	2.8	1.8	0.5	0.9	1.6	2.3	12.3	2.5	6.6	15.0	58.4	24	79.2	16.7	4.2
Canoes and kayaks	588	1.1	0	402	3.1	1.6	0.0	0.2	1.0	1.5	12.9	2.7	3.0	13.9	64.7	12	91.7	8.3	0.0
Jetboats	593	2.1	2	512	0.8	2.8	11.3	5.7	7.8	8.4	12.7	7.0	7.4	9.0	30.7	161	9.9	72.7	17.4
Other	572	0.3	0	243	2.6	2.0	1.2	1.2	1.6	1.6	21.0	2.1	3.3	8.2	59.7	16	6.3	81.3	12.5
Total number of ALL types of watercraft seen	585	7.7	6	474	1.6	2.4	3.6	3.6	5.9	6.5	11.6	8.4	12.7	16.9	30.8	95	35.8	42.1	22.1

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.7. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *private* parties on the *Colorado River flatwater*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number		Some thing else**	Both**
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	182	2.4	2	160	2.1	2.3	3.8	3.1	2.5	5.0	11.9	4.4	12.5	14.4	42.5	25	20.0	64.0	16.0
Rafts, w/o motor	181	2.1	1	139	3.1	1.5	0.7	0.0	0.0	1.4	10.1	2.2	4.3	17.3	64.0	1	100	0.0	0.0
Canoes and kayaks	180	1.4	0	132	3.2	1.5	0.0	0.8	0.0	0.8	10.6	3.0	2.3	16.7	65.9	2	50.0	50.0	0.0
Jetboats	180	2.5	2	165	1.4	2.8	10.3	3.0	5.5	7.9	9.1	6.1	10.9	9.7	37.6	39.0	5.1	69.2	25.6
Other	176	0.2	0	79	2.8	2.0	2.5	0.0	1.3	2.5	16.5	1.3	3.8	6.3	65.8	6	0.0	83.3	16.7
Total number of ALL types of watercraft seen	176	8.5	8	153	2.0	2.2	2.6	1.3	5.9	6.5	11.1	6.5	13.7	13.1	39.2	28	28.6	60.7	10.7

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.8. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *commercial* parties on the *Colorado River flatwater*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number		Some thing else**	Both**
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	416	2.5	2	361	1.6	2.6	6.6	2.8	6.4	5.0	11.6	6.4	10.8	12.5	38.0	72	23.6	59.7	16.7
Rafts, w/o motor	409	1.8	0	301	2.7	1.9	0.3	1.3	2.3	2.7	13.3	2.7	7.6	14.0	55.8	23	78.3	17.4	4.3
Canoes and kayaks	408	0.9	0	270	3.0	1.6	0.0	0.0	1.5	1.9	14.1	2.6	3.3	12.6	64.1	10	100	0.0	0.0
Jetboats	413	1.9	2	347	0.6	2.8	11.8	6.9	8.9	8.6	14.4	7.5	5.8	8.6	27.4	122	11.5	73.8	14.8
Other	396	0.3	0	164	2.5	2.0	0.6	1.8	1.8	1.2	23.2	2.4	3.0	9.1	56.7	10	10.0	80.0	10.0
Total number of ALL types of watercraft seen	409	7.3	6	321	1.5	2.4	4.0	4.7	5.9	6.5	11.8	9.3	12.1	18.7	26.8	67	38.8	34.3	26.9

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.9. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *all* parties in *Cataract Canyon*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number	Something else** *	Both**	%
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	167	2.2	2	152	2.0	2.3	3.9	2.0	5.9	3.9	8.6	10.5	9.9	17.1	38.2	23	21.7	73.9	4.3
Rafts, w/o motor	166	4.1	3	139	2.3	2.2	3.6	1.4	1.4	5.0	10.8	7.2	6.5	14.4	49.6	16	68.8	25.0	6.3
Canoes and kayaks	165	1.6	0	119	3.2	1.6	0.8	0.0	1.7	0.0	8.4	2.5	4.2	10.9	71.4	3	66.7	0.0	33.3
Jetboats****	165	0.5	0	89	3.0	2.0	2.2	2.2	2.2	0.0	7.9	3.4	3.4	7.9	70.8	4	0.0	50.0	50.0
Other	164	0.2	0	69	3.1	2.0	4.3	0.0	0.0	0.0	11.6	1.4	0.0	7.2	75.4	2	0.0	50.0	50.0
Total number of ALL types of watercraft seen	166	8.4	7	122	2.2	2.2	2.5	4.1	2.5	4.1	8.2	8.2	9.0	21.3	40.2	18	44.4	44.4	11.1

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

**** May have confused J-rigs with jetboats.

Table G.10. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *private* parties in *Cataract Canyon*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number		Some thing else**	Both* **
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	42	1.5	1	36	2.8	1.9	2.8	0.0	0.0	2.8	8.3	8.3	5.6	13.9	58.3	2	50.0	50.0	0.0
Rafts, w/o motor	42	3.4	3	36	3.4	1.2	0.0	0.0	0.0	2.8	2.8	2.8	5.6	13.9	72.2	1	100	0.0	0.0
Canoes and kayaks	41	1.0	0	31	3.6	1.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0	9.7	83.9	0	0.0	0.0	0.0
Jetboats	42	0.4	0	29	2.9	2.1	0.0	6.9	0.0	0.0	13.8	0.0	0.0	6.9	72.4	2	0.0	50.0	50.0
Other	43	0.1	0	22	2.6	2.3	4.5	0.0	0.0	0.0	22.7	4.5	0.0	0.0	68.2	1	0.0	100	0.0
Total number of ALL types of watercraft seen	42	6.4	7	32	2.7	1.8	0.0	3.1	0.0	3.1	9.4	0.0	18.8	18.8	46.9	3	33.3	66.7	0.0

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.11. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *commercial* parties in *Cataract Canyon*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number	Some thing else* **	Both ***	
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	125	2.4	2	116	1.7	2.4	4.3	2.6	7.8	4.3	8.6	11.2	11.2	18.1	31.9	21	19.0	76.2	4.8
Rafts, w/o motor	124	4.3	3	103	2.0	2.4	4.9	1.9	1.9	5.8	13.6	8.7	6.8	14.6	41.7	15	66.7	26.7	6.7
Canoes and kayaks	124	1.8	0.5	88	3.1	1.7	1.1	0.0	2.3	0.0	9.1	3.4	5.7	11.4	67.0	3	66.7	0.0	33.3
Jetboats	123	0.5	0	60	3.0	2.0	3.3	0.0	3.3	0.0	5.0	5.0	5.0	8.3	70.0	2	0.0	50.0	50.0
Other	121	0.2	0	47	3.3	1.8	4.3	0.0	0.0	0.0	6.4	0.0	0.0	10.6	78.7	1	0.0	0.0	100
Total number of ALL types of watercraft seen	124	9.1	8	90	2.0	2.3	3.3	4.4	3.3	4.4	7.8	11.1	5.6	22.2	37.8	15	46.7	40.0	13.3

Source: Question 4 of trip diary

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.12. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *all* parties on *Lake Powell*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number	Something else** *	Both**	
	N*	mean	med	N*		std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	159	2.6	2	146	2.1	2.5	6.8	2.7	3.4	1.4	9.6	6.2	6.8	19.9	43.2	15	53.3	26.7	20.0
Rafts, w/o motor	157	1.9	0	117	2.6	2.1	2.6	3.4	0.9	1.7	10.3	2.6	8.5	15.4	54.7	8	50.0	50.0	0.0
Canoes and kayaks	156	0.4	0	93	3.1	1.7	1.1	1.1	1.1	1.1	8.6	2.2	4.3	7.5	73.1	3	33.3	66.7	0.0
Jetboats	155	1.6	0	108	1.5	2.9	13.0	0.9	5.6	5.6	13.0	0.9	4.6	11.1	45.4	22	27.3	63.6	9.1
Other	156	2.6	1	112	1.3	2.9	13.4	1.8	4.5	3.6	17.0	6.3	0.9	10.7	42.0	21	19.0	66.7	14.3
Total number of ALL types of watercraft seen	157	9.2	8	129	1.9	2.4	6.2	2.3	1.6	2.3	13.2	8.5	13.2	15.5	37.2	18	50.0	16.7	33.3

Source: Question 4 of trip diary.

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

**** May have confused J-rigs with jetboats.

Table G.13. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *private* parties on *Lake Powell*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number		Some thing else**	Both* **
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	26	2.8	1	24	2.2	2.7	8.3	4.2	0.0	0.0	16.7	0.0	0.0	12.5	58.3	3	66.7	33.3	0.0
Rafts, w/o motor	26	1.6	0	19	2.8	1.6	0.0	0.0	0.0	0.0	21.1	0.0	10.5	15.8	52.6	0	0.0	0.0	0.0
Canoes and kayaks	27	0.1	0	16	3.1	1.6	0.0	0.0	0.0	0.0	18.8	0.0	6.3	6.3	68.8	0	0.0	0.0	0.0
Jetboats	25	1.1	0	16	2.4	2.5	6.3	0.0	0.0	6.3	18.8	0.0	0.0	6.3	62.5	2	0.0	50.0	50.0
Other	26	2.6	0	16	2.3	2.4	6.3	0.0	0.0	0.0	25.0	0.0	0.0	18.8	50.0	2	0.0	100.	0.0
Total number of ALL types of watercraft seen	25	8.2	6	25	2.0	2.4	8.0	0.0	0.0	0.0	20.0	4.0	16.0	12.0	40.0	2	0.0	0.0	100

Source: Question 4 of trip diary.

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.14. Visitor response to type and number of watercraft seen on a specific day of their river trip, for *commercial* parties on *Lake Powell*.

Type of watercraft seen	Number seen			Percent of respondents by acceptability of the number of watercraft seen**												Reason for giving a response rating < 5			
				Very unacceptable						Very acceptable						Sheer number	Some thing else** *	Both**	Both*
	N*	mean	med	N*	mean	std dev	-4	-3	-2	-1	0	+1	+2	+3	+4	N*	%	%	%
Rafts, with motor	133	2.6	2	122	2.0	2.5	6.6	2.5	4.1	1.6	8.2	7.4	8.2	21.3	40.2	12	50.0	25.0	25.0
Rafts, w/o motor	131	1.9	0	98	2.6	2.2	3.1	4.1	1.0	2.0	8.2	31.1	8.2	15.3	55.1	8	50.0	50.0	0.0
Canoes and kayaks	129	0.5	0	77	3.2	1.8	1.3	1.3	1.3	1.3	6.5	2.6	3.9	7.8	74.0	3	33.3	66.7	0.0
Jetboats	130	1.7	0	92	1.4	3.0	14.1	1.1	6.5	5.4	12.0	1.1	5.4	12.0	42.4	20	30.0	65.0	5.0
Other	130	2.5	1.5	96	1.2	3.0	14.6	2.1	5.2	4.2	15.6	7.3	1.0	9.4	40.6	20	20.0	65.0	15.0
Total number of ALL types of watercraft seen	132	9.4	8.0	104	1.9	2.4	5.8	2.9	1.9	2.9	11.5	9.6	12.5	16.3	36.5	16	56.3	18.8	25.0

Source: Question 4 of trip diary.

* Number of respondents answering the question.

** Responses based on a scale of -4 (very unacceptable) to +4 (very acceptable).

*** See Appendix F for other reasons respondents provided a rating of less than 0.

Table G.15. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) that would have been *acceptable* to see *today*?” by *all* parties.

River encounter zone	Maximum acceptable number to see					Can't estimate a number		Wouldn't matter		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean*	median	std dev						
Green River flatwater	455	71.2	7.5 ^{a,b,c}	5	6.8	149	23.3	35	5.5	639	100.0
Colorado River flatwater	366	60.9	9.6 ^a	6	10.7	178	29.6	57	9.5	601	100.0
Cataract Canyon	95	58.3	11.1 ^b	10	8.4	47	28.8	21	12.9	163	100.0
Lake Powell	76	46.3	11.2 ^c	10	8.6	59	36.0	29	17.7	164	100.0

Source: Question 5 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.16. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) that would have been *acceptable* to see *today*?” by *private* parties.

River encounter zone	Maximum acceptable number to see					Can't estimate a number		Wouldn't matter		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean*	median	std dev						
Green River flatwater	412	72.7	7.4 ^{a,c}	5	6.8	124	21.9	31	5.5	567	100.0
Colorado River flatwater	104	55.9	11.6 ^a	10	9.3	63	33.9	19	10.2	186	100.0
Cataract Canyon	19	46.3	14.5 ^{b,c}	14	8.2	10	24.4	12	29.3	41	100.0
Lake Powell	10	35.7	7.7 ^b	7	7.0	10	35.7	8	28.6	28	100.0

Source: Question 5 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.17. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) that would have been *acceptable* to see *today*?” by *commercial* parties.

River encounter zone	<i>Maximum acceptable number to see</i>					Can’t estimate a number		Wouldn’t matter		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean*	median	std dev						
Green River flatwater	43	59.7	8.0 ^a	6	7.1	25	34.7	4	5.6	72	100.0
Colorado River flatwater	262	63.1	8.8 ^b	6	11.1	115	27.7	38	9.2	415	100.0
Cataract Canyon	76	62.3	10.3	8	8.2	37	30.3	9	7.4	122	100.0
Lake Powell	66	48.5	11.8 ^{a,b}	10	8.8	49	36.0	21	15.4	136	100.0

Source: Question 5 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.18. Response to: “About how many watercraft (watercraft of all types) would you have *preferred* to see *today*?”, by *all* parties.

River encounter zone	<i>Preferred number to see</i>					No preference		Total	
	N	%	Watercraft			N	%	N	%
			mean*	median	std dev				
Green River flatwater	496	79.0	2.0 ^{a,b,c}	0	3.8	132	21.0	628	100.0
Colorado River flatwater	390	66.2	3.2 ^a	1	4.8	199	33.8	589	100.0
Cataract Canyon	100	61.3	3.6 ^b	0	6.3	63	38.7	163	100.0
Lake Powell	94	58.0	4.0 ^c	2	6.4	68	42.0	162	100.0

Source: Question 6 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.19. Response to: “About how many watercraft (watercraft of all types) would you have *preferred* to see *today*?” by *private* parties.

River encounter zone	Preferred number to see					No preference		Total	
	N	%	Watercraft			N	%	N	%
			mean*	median	std dev				
Green River flatwater	449	80.6	1.8 ^{a,b}	0	3.8	108	19.4	557	100.0
Colorado River flatwater	113	63.1	4.8 ^a	3	5.8	66	36.9	179	100.0
Cataract Canyon	21	51.2	5.9 ^b	0	7.8	20	48.8	41	100.0
Lake Powell	13	48.1	2.8	0	5.6	14	51.9	27	100.0

Source: Question 6 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.20. Response to: “About how many watercraft (watercraft of all types) would you have *preferred* to see *today*?” by *commercial* parties.

River encounter zone	Preferred number to see					No preference		Total	
	N	%	Watercraft			N	%	N	%
			mean*	median	std dev				
Green River flatwater	47	66.2	3.4	3	3.6	24	33.8	71	100.0
Colorado River flatwater	277	67.6	2.5 ^a	0	4.2	133	32.4	410	100.0
Cataract Canyon	79	64.8	2.9	0	5.7	43	35.2	122	100.0
Lake Powell	81	60.0	4.2 ^a	3	6.5	54	40.0	135	100.0

Source: Question 6 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.21. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) that you could see *today* before you would *consider not visiting* this river again?”, by *all parties*.

River encounter zone	Maximum number to see before considering not visiting the river again					Can't estimate a number		Would continue to visit regardless of number seen		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean*	median	std dev						
Green River flatwater	401	63.3	14.7 ^a	10	22.2	184	29.1	48	7.6	633	100.0
Colorado River flatwater	353	58.5	19.4 ^a	15	29.9	175	29.0	75	12.4	603	100.0
Cataract Canyon	86	52.8	24.1	15.5	43.5	59	36.2	18	11.0	163	100.0
Lake Powell	79	48.8	24.0	15	45.5	51	31.5	32	19.7	162	100.0

Source: Question 7 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.22. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) that you could see *today* before you would *consider not visiting* this river again?” by *private parties*.

River encounter zone	Maximum number to see before considering not visiting the river again					Can't estimate a number		Would continue to visit regardless of number seen		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean*	median	std dev						
Green River flatwater	363	64.6	13.5 ^{a,c}	10	10.1	154	27.4	45	8.0	562	100.0
Colorado River flatwater	102	54.5	18.2 ^a	15	14.0	53	28.3	32	17.1	187	100.0
Cataract Canyon	20	48.8	21.6 ^{b,c}	20	9.9	10	24.4	11	26.8	41	100.0
Lake Powell	12	46.2	11.8 ^b	10	9.4	5	19.2	9	34.6	26	100.0

Source: Question 7 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.23. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) that you could see *today* before you would *consider*

not visiting this river again?” by *commercial* parties.

River encounter zone	<i>Maximum number to see before considering not visiting the river again</i>					Can't estimate a number		Would continue to visit regardless of number seen		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean	median	std dev						
Green River flatwater	38	53.5	26.4	12	64.8	30	42.3	3	4.2	71	100.0
Colorado River flatwater	251	60.3	19.9	15	34.4	122	29.3	43	10.3	416	100.0
Cataract Canyon	66	54.1	24.8	15	49.4	49	40.2	7	5.7	122	100.0
Lake Powell	67	49.3	26.1	20	49.0	46	33.8	23	16.9	136	100.0

Source: Question 7 of trip diary.

Table G.24. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) the National Park Service *should have managed* for you to see *today?*”, by *all* parties.

River encounter zone	<i>Maximum number for which the National Park Service should have managed</i>					Can't estimate a number		NPS should not limit number		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean*	median	std dev						
Green River flatwater	376	60.0	8.4 ^{a,b}	6.0	7.2	204	32.5	47	7.5	627	100.0
Colorado River flatwater	309	52.6	10.2 ^a	10.0	8.8	216	36.7	63	10.7	588	100.0
Cataract Canyon	68	42.8	11.5 ^b	10.0	9.4	69	43.4	22	13.8	159	100.0
Lake Powell	61	39.1	10.3	8.0	9.2	63	40.4	32	20.5	156	100.0

Source: Question 8 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.25. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) the National Park Service *should have managed* for you to see *today?*” by *private* parties.

River encounter zone	<i>Maximum number for which the National Park Service should have managed</i>					Can’t estimate a number		NPS should not limit number		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean*	median	std dev						
Green River flatwater	345	61.7	8.3 ^{a,c}	6	7.2	170	30.4	44	7.9	559	100.0
Colorado River flatwater	102	55.4	12.5 ^{a,d}	10	8.6	54	29.3	28	15.2	184	100.0
Cataract Canyon	17	41.5	15.1 ^{b,c}	15	10.7	13	31.7	11	26.8	41	100.0
Lake Powell	9	36	4.6 ^{b,d}	5	4.0	8	32.0	8	32.0	25	100.0

Source: Question 8 of trip diary.

* Differences between means identified with the same letter are statistically significant at the $p < .05$ level.

Table G.26. Response to: “What do you think is the *maximum number* of watercraft (watercraft of all types) the National Park Service *should have managed* for you to see *today?*” by *commercial* parties.

River encounter zone	<i>Maximum number for which the National Park Service should have managed</i>					Can’t estimate a number		NPS should not limit number		Total	
	N	%	Watercraft			N	%	N	%	N	%
			mean	median	std dev						
Green River flatwater	31	45.6	10.0	10	8.0	34	50.0	3	4.4	68	100.0
Colorado River flatwater	207	51.2	9.1	8	8.6	162	40.1	35	8.7	404	100.0
Cataract Canyon	51	43.2	10.3	8	8.7	56	47.5	11	9.3	118	100.0
Lake Powell	52	39.7	11.3	9	9.5	55	42.0	24	18.3	131	100.0

Source: Question 8 of trip diary.

H. High Points and Low Points of the River Trip Each Day

Table H.1. High points of the day for those party leaders who listed at least one high point, by river encounter zone (based on first 3 high points listed by respondent).

High points of the day	Green River flatwater			Colorado River flatwater			Cataract Canyon			Lake Powell		
	N	%*	%**	N	%*	%**	N	%*	%**	N	%*	%**
Archeological or cultural sites	140	11.3	22.3	91	8.0	15.5	6	2.1	3.6	1	0.4	0.7
Scenery, views, landscape	200	16.1	31.9	204	17.9	34.8	22	7.8	13.2	36	15.4	24.0
Solitude, peacefulness, quiet, isolation	118	9.5	18.8	105	9.2	17.9	5	1.8	3.0	6	2.6	4.0
Hiking/walking/exploring canyons	183	14.7	29.2	165	14.5	28.1	48	17.0	28.7	37	15.8	24.7
Nice/clean campsite	72	5.8	11.5	35	3.1	6.0	12	4.3	7.2	8	3.4	5.3
Rapids, whitewater, scouting rapids	0	0.0	0.0	33	2.9	5.6	125	44.3	74.9	8	3.4	5.3
Lunch, dinner, food, drink	21	1.7	3.3	30	2.6	5.1	5	1.8	3.0	18	7.7	12.0
Oaring, paddling, rowing	6	0.5	1.0	6	0.5	1.0	0	0.0	0.0	1	0.4	0.7
Meeting new people/other groups	5	0.4	0.8	12	1.1	2.0	2	0.7	1.2	5	2.1	3.3
Swimming	43	3.5	6.9	72	6.3	12.3	6	2.1	3.6	23	9.8	15.3
Relaxation, rest, slow place, no hurry	26	2.1	4.1	19	1.7	3.2	1	0.4	0.6	3	1.3	2.0
Camping, campfire	3	0.2	0.5	3	0.3	0.5	1	0.4	0.6	0	0.0	0.0
Wildlife	88	7.1	14.0	38	3.3	6.5	7	2.5	4.2	4	1.7	2.7
Waterfalls	4	0.3	0.6	20	1.8	3.4	1	0.4	0.6	7	3.0	4.7
Confluence	13	1.0	2.1	16	1.4	2.7	3	1.1	1.8	0	0.0	0.0
Geology, canyon walls, rock formations	83	6.7	13.2	67	5.9	11.4	7	2.5	4.2	24	10.3	16.0
Comradery, bonding	19	1.5	3.0	29	2.6	4.9	1	0.4	0.6	7	3.0	4.7
Flat water, calm water	4	0.3	0.6	3	0.3	0.5	0	0.0	0.0	0	0.0	0.0
Weather phenomena, climate	47	3.8	7.5	19	1.7	3.2	0	0.0	0.0	6	2.6	4.0
Fishing	4	0.3	0.6	2	0.2	0.3	1	0.4	0.6	0	0.0	0.0
Undeveloped river/area, being on river	16	1.3	2.6	24	2.1	4.1	4	1.4	2.4	2	0.9	1.3
Stars, moon, meteors, night sky	13	1.0	2.1	10	0.9	1.7	1	0.4	0.6	0	0.0	0.0
Guides, outfitters	6	0.5	1.0	13	1.1	2.2	1	0.4	0.6	3	1.3	2.0
Lake Powell	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	9	3.8	6.0
Floating river	15	1.2	2.4	23	2.0	3.9	0	0.0	0.0	2	0.9	1.3
Jetboat ride on Colorado River	5	0.4	0.8	3	0.3	0.5	0	0.0	0.0	0	0.0	0.0
Beaches	0	0.0	0.0	3	0.3	0.5	2	0.7	1.2	0	0.0	0.0
Other	109	8.9	18.0	92	8.1	15.6	21	7.4	12.6	22	9.4	14.7
Total	1,243	100.0	--	1,137	100.0	--	282	100.0	--	234	100.0	--

Source: Question 9 of trip diary.

* Percentage based on total number of *responses*. Respondents could give a maximum of three responses. (Green River N=1,243; Colorado River N=1,137; Cataract Canyon N=282).

** Percentage based on total number of *respondents*. (Green River N=627; Colorado River N=587; Cataract Canyon N=167).

Table H.2. Low points of the day for those party leaders who listed at least one low point, by river encounter zone (based on first 3 low points listed by respondent).

Low points of the day	Green River flatwater			Colorado River flatwater			Cataract Canyon			Lake Powell		
	N	%*	%**	N	%*	%**	N	%*	%**	N	%*	%**
Couldn't find site of interest/trail	13	2.7	3.6	2	0.5	0.6	0	0.0	0.0	0	0.0	0.0
Insects (e.g., mosquitoes, flies)	78	16.4	21.3	27	6.9	8.4	2	2.5	2.7	1	0.8	1.0
Dust, sand	5	1.1	1.4	12	3.1	3.7	1	1.3	1.4	0	0.0	0.0
Campsite	1	0.2	0.3	5	1.3	1.6	3	3.8	4.1	1	0.8	1.0
Wind	27	5.7	7.4	22	5.6	6.8	1	1.3	1.4	0	0.0	0.0
Campsite competition	63	13.2	17.2	20	5.1	6.2	4	5.0	5.4	0	0.0	0.0
Finishing trip, last day, trip too short	5	1.1	1.4	5	1.3	1.6	1	1.3	1.4	24	20.3	24.2
Unpleasant social encounters	46	9.7	12.6	22	5.6	6.8	5	6.3	6.8	5	4.2	5.1
Motorized watercraft	54	11.3	14.8	37	9.5	11.5	2	2.5	2.7	8	6.8	8.1
Too many other boats/people	11	2.3	3.0	16	4.1	5.0	3	3.8	4.1	2	1.7	2.0
Tamarisk (e.g., blocked access to shore)	22	4.6	6.0	4	1.0	1.2	2	2.5	2.7	2	1.7	2.0
Low water, small rapids	0	0.0	0.0	19	4.9	5.9	6	7.5	8.2	6	5.1	6.1
ATV noise/ATV on Rimroad	13	2.7	3.5	3	0.8	0.9	2	2.5	2.7	0	0.0	0.0
Airplane overflights	15	3.2	4.1	4	1.0	1.2	0	0.0	0.0	0	0.0	0.0
Litter, human waste	6	1.3	1.6	2	0.5	0.6	2	2.5	2.7	7	5.9	7.1
Jetboats	0	0.0	0.0	39	10.0	12.1	0	0.0	0.0	2	1.7	2.0
Weather (e.g., heat, cold)	26	5.5	7.1	42	10.7	13.0	9	11.2	12.2	6	5.1	6.1
Large groups (including own group)	10	2.1	2.7	6	1.5	1.9	1	1.3	1.4	0	0.0	0.0
Toilets, sanitation facilities	2	0.4	0.5	4	1.0	1.2	1	1.3	1.4	1	0.8	1.0
Injury or accident	4	0.8	1.1	1	0.3	0.3	4	5.0	5.4	0	0.0	0.0
Sharing campsite	15	3.2	4.1	4	1.0	1.2	0	0.0	0.0	0	0.0	0.0
Vandalism	2	0.4	0.5	1	0.3	0.3	0	0.0	0.0	0	0.0	0.0
Lake Powell	0	0.0	0.0	0	0.0	0.0	3	3.8	4.1	23	19.5	23.2
Personal watercraft (e.g., Jetski)	1	0.2	0.3	1	0.3	0.3	3	3.8	4.1	6	5.1	6.1
Mechanical trouble	0	0.0	0.0	3	0.8	0.9	1	1.3	1.4	0	0.0	0.0
Hite Marina	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	2	1.7	2.0
Food	1	0.2	0.3	3	0.8	0.9	0	0.0	0.0	0	0.0	0.0
Motoring on flat water	0	0.0	0.0	3	0.8	0.9	2	2.5	2.7	3	2.5	3.0
Sandbars	0	0.0	0.0	4	1.0	1.2	0	0.0	0.0	0	0.0	0.0
Other	56	11.8	15.3	80	20.5	24.8	24	30.0	32.5	19	16.0	19.2
Total	476	100.0	--	391	100.0	--	80	100.0	--	118	100.0	--

Source: Question 10 of trip diary.

* Percentage based on total number of *responses*. Respondents could give a maximum of three responses. (Green River N=476; Colorado River N=391; Cataract Canyon N=80).

** Percentage based on total number of *respondents*. (Green River N=366; Colorado River N=322; Cataract Canyon N=74).

I. Type of River Trip

Table I.1. Type of river trip taken by private and commercial parties in Canyonlands National Park.

Type of river trip	Private		Commercial		Total	
	N	%	N	%	N	%
Green River flatwater	144	100.0	0	0.0	144	100.0
Colorado River flatwater & Cataract Canyon	88	22.6	302	77.4	390	100.0
Green River flatwater and Cataract Canyon*	19	37.3	32	62.7	51	100.0

Source: Post-trip questionnaire.

* Tables J and K include data from parties who traveled on the Green River and through Cataract Canyon.

J. Conditions Encountered during the River Trip

Table J.1. Visitor response to conditions they may have experienced on *Green River flatwater* trips in Canyonlands National Park, by *private* parties.

Condition	N	Mean*	Percent of respondents by response category				
			Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem
Difficulty finding an unoccupied campsite	144	2.1	41.0	25.0	20.1	9.0	4.9
Campsites damaged by previous visitors	143	1.4	67.1	25.9	6.3	0.0	0.7
Too many watercraft seen along the river	142	1.8	54.2	21.1	14.8	7.7	2.1
Too many motorized watercraft along the river	142	2.1	54.9	9.9	14.8	7.7	12.7
Visitor groups that were too large	142	1.9	57.7	16.9	9.2	7.7	8.5
People shouting and yelling	143	1.7	60.8	21.7	8.4	6.3	2.8
Litter along the river	144	1.3	72.2	22.9	4.2	0.0	0.7
People being inconsiderate	144	1.5	66.7	18.8	10.4	1.4	2.8
Too few rules and regulations	141	1.2	88.7	5.7	2.8	2.1	0.7
Too many rules and regulations	141	1.2	89.4	5.0	5.0	0.0	0.7
Insufficient information about things to do and see along the river	143	1.7	60.8	19.6	14.0	4.2	1.4
Insufficient information about appropriate behavior on river trips	143	1.4	76.2	11.9	6.3	3.5	2.1
Inadequate toilet facilities at put-in and take-out points	144	1.2	88.2	6.9	2.8	1.4	0.7
Not enough law enforcement	141	1.1	95.0	1.4	2.8	0.0	0.7
Too much law enforcement	142	1.0	98.6	0.7	0.0	0.0	0.7
Noise from airplanes	142	2.4	32.4	21.8	26.1	9.9	9.9

Source: Question 2 of post-trip questionnaire.

* Means based on a 5-point scale: 1=not a problem, 2=slight problem, 3=moderate problem, 4=serious problem, 5=very serious problem

Table J.2. Visitor response to conditions they may have experienced on *Colorado River/Cataract Canyon* trips in Canyonlands National Park, by *all* parties.

Condition	N	Mean*	Percent of respondents by response category				
			Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem
Difficulty finding an unoccupied campsite	386	1.5	66.6	17.4	11.7	3.6	0.8
Campsites damaged by previous visitors	387	1.3	81.4	13.7	3.6	1.0	0.3
Too many watercraft seen along the river	387	1.7	57.1	24.5	12.9	3.6	1.8
Too many motorized watercraft along the river	383	2.1	46.5	21.9	15.4	10.2	6.0
Visitor groups that were too large	386	1.6	66.1	17.6	9.8	3.6	2.8
People shouting and yelling	388	1.3	79.9	11.1	7.0	0.8	1.3
Litter along the river	388	1.3	78.4	15.5	4.1	1.0	1.0
People being inconsiderate	388	1.4	78.9	11.3	6.7	1.3	1.8
Too few rules and regulations	387	1.2	87.9	7.2	2.8	1.3	0.8
Too many rules and regulations	386	1.3	84.2	7.3	7.0	0.8	0.8
Insufficient information about things to do and see along the river	388	1.4	75.8	13.7	8.8	1.3	0.5
Insufficient information about appropriate behavior on river trips	386	1.2	88.3	6.2	4.1	0.8	0.5
Inadequate toilet facilities at put-in and take-out points	385	1.5	74.8	11.7	8.1	1.8	3.6
Not enough law enforcement	384	1.2	91.1	2.9	4.9	0.5	0.5
Too much law enforcement	383	1.1	94.0	2.9	2.3	0.5	0.3
Noise from airplanes	387	1.4	75.5	13.7	7.0	3.1	0.8

Source: Question 2 of post-trip questionnaire.

*Means based on a 5-point scale: 1=not a problem, 2=slight problem, 3=moderate problem, 4=serious problem, 5=very serious problem

Table J.3. Visitor response to conditions they may have experienced on *Colorado River/Cataract Canyon* trips in Canyonlands National Park, by *private* parties.

Condition	N	Mean*	Means based on a 5-point scale: Percent of respondents by response category				
			Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem
Difficulty finding an unoccupied campsite	86	1.7	60.5	19.8	14.0	4.7	1.2
Campsites damaged by previous visitors	88	1.3	77.3	19.3	3.4	0.0	0.0
Too many watercraft seen along the river	87	1.6	58.6	23.0	14.9	2.3	1.1
Too many motorized watercraft along the river	85	2.2	40.0	21.2	20.0	11.8	7.1
Visitor groups that were too large	87	1.6	65.5	17.2	10.3	3.4	3.4
People shouting and yelling	87	1.4	77.0	9.2	10.3	1.1	2.3
Litter along the river	87	1.4	71.3	21.8	6.9	0.0	0.0
People being inconsiderate	87	1.5	71.3	16.1	6.9	3.4	2.3
Too few rules and regulations	86	1.2	86.0	10.5	3.5	0.0	0.0
Too many rules and regulations	86	1.3	82.6	3.5	12.8	1.2	0.0
Insufficient information about things to do and see along the river	88	1.5	65.9	19.3	11.4	3.4	0.0
Insufficient information about appropriate behavior on river trips	87	1.3	85.1	4.6	9.2	1.1	0.0
Inadequate toilet facilities at put-in and take-out points	87	1.5	77.0	9.2	8.0	2.3	3.4
Not enough law enforcement	86	1.1	94.2	2.3	3.5	0.0	0.0
Too much law enforcement	86	1.2	90.7	3.5	4.7	1.2	0.0
Noise from airplanes	88	1.7	61.4	18.2	11.4	6.8	2.3

Source: Question 2 of post-trip questionnaire.

* Means based on a 5-point scale: 1=not a problem, 2=slight problem, 3=moderate problem, 4=serious problem, 5=very serious problem

Table J.4. Visitor response to conditions they may have experienced on *Colorado River/Cataract Canyon* trips in Canyonlands National Park, by *commercial* parties.

Condition	N	Mean*	Percent of respondents by response category				
			Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem
Difficulty finding an unoccupied campsite	300	1.5	68.3	16.7	11.0	3.3	0.7
Campsites damaged by previous visitors	299	1.2	82.6	12.0	3.7	1.3	0.3
Too many watercraft seen along the river	300	1.7	56.7	25.0	12.3	4.0	2.0
Too many motorized watercraft along the river	298	2.0	48.3	22.1	14.1	9.7	5.7
Visitor groups that were too large	299	1.6	66.2	17.7	9.7	3.7	2.7
People shouting and yelling	301	1.3	80.7	11.6	6.0	0.7	1.0
Litter along the river	301	1.3	80.4	13.6	3.3	1.3	1.3
People being inconsiderate	301	1.3	81.1	10.0	6.6	0.7	1.7
Too few rules and regulations	301	1.2	88.4	6.3	2.7	1.7	1.0
Too many rules and regulations	300	1.2	84.7	8.3	5.3	0.7	1.0
Insufficient information about things to do and see along the river	300	1.3	78.7	12.0	8.0	0.7	0.7
Insufficient information about appropriate behavior on river trips	299	1.2	89.3	6.7	2.7	0.7	0.7
Inadequate toilet facilities at put-in and take-out points	298	1.5	74.2	12.4	8.1	1.7	3.7
Not enough law enforcement	298	1.2	90.3	3.0	5.4	0.7	0.7
Too much law enforcement	297	1.1	94.9	2.7	1.7	0.3	0.3
Noise from airplanes	299	1.3	79.6	12.4	5.7	2.0	0.3

Source: Question 2 of post-trip questionnaire.

* Means based on a 5-point scale: 1=not a problem, 2=slight problem, 3=moderate problem, 4=serious problem, 5=very serious problem

Table J.5. Visitor response to conditions they may have experienced on *Green River/Cataract Canyon* trips in Canyonlands National Park, by *all* parties.

Condition	N	Mean*	Percent of respondents by response category				
			Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem
Difficulty finding an unoccupied campsite	51	1.7	45.1	39.2	13.7	2.0	0.0
Campsites damaged by previous visitors	51	1.3	78.4	15.7	5.9	0.0	0.0
Too many watercraft seen along the river	51	1.6	66.7	17.6	7.8	7.8	0.0
Too many motorized watercraft along the river	51	1.7	60.8	23.5	3.9	3.9	7.8
Visitor groups that were too large	51	1.3	80.4	15.7	2.0	2.0	0.0
People shouting and yelling	51	1.3	82.4	11.8	3.9	0.0	2.0
Litter along the river	50	1.5	60.0	26.0	14.0	0.0	0.0
People being inconsiderate	51	1.4	70.6	21.6	5.9	0.0	2.0
Too few rules and regulations	50	1.2	86.0	10.0	4.0	0.0	0.0
Too many rules and regulations	50	1.4	78.0	8.0	10.0	2.0	2.0
Insufficient information about things to do and see along the river	51	1.4	80.4	5.9	7.8	3.9	2.0
Insufficient information about appropriate behavior on river trips	51	1.2	84.3	11.8	2.0	0.0	2.0
Inadequate toilet facilities at put-in and take-out points	51	1.2	88.2	3.9	5.9	0.0	2.0
Not enough law enforcement	51	1.0	98.0	0.0	2.0	0.0	0.0
Too much law enforcement	51	1.1	96.1	0.0	2.0	0.0	2.0
Noise from airplanes	51	1.8	56.9	23.5	9.8	5.9	3.9

Source: Question 2 of post-trip questionnaire.

* Means based on a 5-point scale: 1=not a problem, 2=slight problem, 3=moderate problem, 4=serious problem, 5=very serious problem

Table J.6. Visitor response to conditions they may have experienced on *Green River/Cataract Canyon* trips in Canyonlands National Park, by *private* parties.

Condition	N	Mean*	Percent of respondents by response category				
			Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem
Difficulty finding an unoccupied campsite	19	2.1	31.6	36.8	26.3	5.3	0.0
Campsites damaged by previous visitors	19	1.5	68.4	15.8	15.8	0.0	0.0
Too many watercraft seen along the river	19	1.8	57.9	21.1	5.3	15.8	0.0
Too many motorized watercraft along the river	19	2.3	52.6	15.8	0.0	10.5	21.1
Visitor groups that were too large	19	1.6	52.6	36.8	5.3	5.3	0.0
People shouting and yelling	19	1.6	68.4	15.8	10.5	0.0	5.3
Litter along the river	19	1.9	36.8	36.8	26.3	0.0	0.0
People being inconsiderate	19	1.6	57.9	31.6	5.3	0.0	5.3
Too few rules and regulations	19	1.4	73.7	15.8	10.5	0.0	0.0
Too many rules and regulations	19	1.2	89.5	0.0	10.5	0.0	0.0
Insufficient information about things to do and see along the river	19	1.7	73.7	5.3	5.3	10.5	5.3
Insufficient information about appropriate behavior on river trips	19	1.4	78.9	10.5	5.3	0.0	5.3
Inadequate toilet facilities at put-in and take-out points	19	1.2	89.5	5.3	5.3	0.0	0.0
Not enough law enforcement	19	1.0	100.0	0.0	0.0	0.0	0.0
Too much law enforcement	19	1.2	94.7	0.0	0.0	5.3	0.0
Noise from airplanes	19	1.9	52.6	21.1	10.5	10.5	5.3

Source: Question 2 of post-trip questionnaire.

* Means based on a 5-point scale: 1=not a problem, 2=slight problem, 3=moderate problem, 4=serious problem, 5=very serious problem

Table J.7. Visitor response to conditions they may have experienced on *Green River/Cataract Canyon* trips in Canyonlands National Park, by *commercial* parties.

Condition	N	Mean*	Percent of respondents by response category				
			Not a problem	Slight problem	Moderate problem	Serious problem	Very serious problem
Difficulty finding an unoccupied campsite	32	1.5	53.1	40.6	6.3	0.0	0.0
Campsites damaged by previous visitors	32	1.2	84.4	15.6	0.0	0.0	0.0
Too many watercraft seen along the river	32	1.4	71.9	15.6	9.4	3.1	0.0
Too many motorized watercraft along the river	32	1.4	65.6	28.1	6.3	0.0	0.0
Visitor groups that were too large	32	1.0	96.9	3.1	0.0	0.0	0.0
People shouting and yelling	32	1.1	90.6	9.4	0.0	0.0	0.0
Litter along the river	31	1.3	74.2	19.4	6.5	0.0	0.0
People being inconsiderate	32	1.3	78.1	15.6	6.3	0.0	0.0
Too few rules and regulations	31	1.1	93.5	6.5	0.0	0.0	0.0
Too many rules and regulations	31	1.5	71.0	12.9	9.7	3.2	3.2
Insufficient information about things to do and see along the river	32	1.3	84.4	6.3	9.4	0.0	0.0
Insufficient information about appropriate behavior on river trips	32	1.1	87.5	12.5	0.0	0.0	0.0
Inadequate toilet facilities at put-in and take-out points	32	1.3	87.5	3.1	6.3	3.1	0.0
Not enough law enforcement	32	1.1	96.9	0.0	3.1	0.0	0.0
Too much law enforcement	32	1.1	96.9	0.0	3.1	0.0	0.0
Noise from airplanes	32	1.7	59.4	25.0	9.4	3.1	3.1

Source: Question 2 of post-trip questionnaire.

* Means based on a 5-point scale: 1=not a problem, 2=slight problem, 3=moderate problem, 4=serious problem, 5=very serious problem

K. Potential Management Actions

Table K.1. Visitor response to potential management actions on the *Green River flatwater* in Canyonlands National Park, by *private* parties.

Management action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
Require all boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary	142	1.5	59.2	28.9	7.0	3.5	1.4
Limit camping to designated campsites only	141	1.8	41.8	34.8	16.3	3.5	3.5
Provide more park rangers along the river to educate visitors about appropriate behavior	140	2.0	30.0	38.6	19.3	7.1	5.0
Provide more park rangers along the river to enforce rules and regulations	140	1.9	37.5	40.0	14.3	4.3	5.7
Provide more park rangers along the river for safety/search and rescue purposes	141	2.1	25.5	31.9	24.1	5.0	13.5
Limit the total number of watercraft allowed to use the river	143	3.0	7.7	16.8	37.1	32.9	5.6
Limit the number of canoes and kayaks allowed to use the river	141	2.6	15.6	26.2	39.0	17.0	2.1
Limit the number of nonmotorized rafts allowed to use the river	141	2.8	9.9	24.8	38.3	24.8	2.1
Limit the number of motorized rafts allowed to use the river	142	3.6	3.5	4.2	17.6	72.5	2.1
Limit the number of jetboats allowed to use the river	141	3.7	1.4	5.0	17.7	73.0	2.8
Provide more information to visitors about appropriate behavior on river trips	141	3.1	5.0	8.5	56.7	23.4	6.4
Provide more information to visitors about the natural and cultural history of the area	143	3.2	2.8	5.6	55.9	32.2	3.5
Require first-time visitors to learn about appropriate behavior on river trips (e.g., watch a short video presentation)	141	2.7	12.8	24.1	36.9	18.4	7.8
Be more aggressive in enforcement of safety rules and regulations on or along the river	140	2.1	23.6	34.3	21.4	4.3	16.4
Prohibit canoes and kayaks from the river	143	1.1	94.4	5.6	0.0	0.0	0.0
Prohibit nonmotorized rafts from the river	143	1.3	77.6	16.8	3.5	2.1	0.0
Prohibit motorized rafts from the river	144	3.1	14.6	12.5	18.8	49.3	4.9
Prohibit personal watercraft (e.g., Jetski) from the river	143	3.8	4.9	2.1	4.2	86.0	2.8
Prohibit jetboats from the river	141	2.8	17.0	24.1	14.9	39.7	4.3
Restrict the number of people using the river at any one time	142	2.9	9.2	14.8	47.2	25.4	3.5
Limit the number of people <i>per group</i> allowed on the river	139	3.1	2.9	15.1	46.8	30.9	4.3
Improve loading areas at put-in and take-out points	141	2.3	14.9	36.2	26.2	7.8	14.9

Source: Question 3 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.2. Visitor response to potential management actions on the *Colorado River/Cataract Canyon* in Canyonlands National Park, by *all* parties.

Management action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
Require all boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary	383	2.4	18.8	29.5	29.8	13.8	8.1
Limit camping to designated campsites only	386	2.6	19.4	24.9	27.5	23.1	5.2
Provide more park rangers along the river to educate visitors about appropriate behavior	385	2.4	17.1	33.2	30.4	9.4	9.9
Provide more park rangers along the river to enforce rules and regulations	386	2.2	19.4	36.5	25.6	7.3	11.1
Provide more park rangers along the river for safety/search and rescue purposes	381	2.5	11.8	26.8	35.7	8.9	16.8
Limit the total number of watercraft allowed to use the river	383	2.9	9.9	17.8	37.1	28.2	7.0
Limit the number of canoes and kayaks allowed to use the river	384	2.4	18.8	31.8	32.6	11.5	5.5
Limit the number of nonmotorized rafts allowed to use the river	383	2.5	20.1	24.3	37.3	13.1	5.2
Limit the number of motorized rafts allowed to use the river	384	3.0	10.2	15.4	30.7	39.6	4.2
Limit the number of jetboats allowed to use the river	382	3.3	7.3	8.4	26.2	54.5	3.7
Provide more information to visitors about appropriate behavior on river trips	386	2.9	6.2	11.7	53.9	19.2	9.1
Provide more information to visitors about the natural and cultural history of the area	384	3.2	2.9	3.6	58.9	31.5	3.1
Require first-time visitors to learn about appropriate behavior on river trips (e.g., watch a short video presentation)	384	2.5	14.3	29.7	32.6	15.9	7.6
Be more aggressive in enforcement of safety rules and regulations on or along the river	381	2.3	13.9	37.0	26.8	7.6	14.7
Prohibit canoes and kayaks from the river	385	1.4	65.2	33.0	0.3	0.5	1.0
Prohibit nonmotorized rafts from the river	386	1.3	69.4	28.2	1.3	0.0	1.0
Prohibit motorized rafts from the river	384	1.8	42.2	39.1	7.6	7.8	3.4
Prohibit personal watercraft (e.g., Jetski) from the river	384	3.2	11.7	10.7	17.4	57.6	2.6
Prohibit jetboats from the river	382	2.6	18.3	31.4	18.8	25.9	5.5
Restrict the number of people using the river at any one time	383	2.9	9.7	14.6	45.2	24.5	6.0
Limit the number of people <i>per group</i> allowed on the river	383	2.9	8.6	15.7	42.8	27.2	5.7
Improve loading areas at put-in and take-out points	377	2.7	10.6	14.9	37.9	11.7	24.9

Source: Question 3 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.3. Visitor response to potential management actions on the *Colorado River/Cataract Canyon* in Canyonlands National Park, by *private* parties.

Management action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
Require all boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary	87	2.0	29.9	39.1	20.7	6.9	3.4
Limit camping to designated campsites only	88	2.0	31.8	37.5	20.5	8.0	2.3
Provide more park rangers along the river to educate visitors about appropriate behavior	88	2.2	25.0	31.8	27.3	8.0	8.0
Provide more park rangers along the river to enforce rules and regulations	88	2.0	28.4	38.6	19.3	4.5	9.1
Provide more park rangers along the river for safety/search and rescue purposes	87	2.4	14.9	31.0	35.6	5.7	12.6
Limit the total number of watercraft allowed to use the river	87	2.5	16.1	33.3	28.7	18.4	3.4
Limit the number of canoes and kayaks allowed to use the river	88	2.0	34.1	34.1	22.7	5.7	3.4
Limit the number of nonmotorized rafts allowed to use the river	88	2.0	39.8	25.0	23.9	8.0	3.4
Limit the number of motorized rafts allowed to use the river	88	2.7	14.8	28.4	25.0	29.5	2.3
Limit the number of jetboats allowed to use the river	88	3.1	6.8	13.6	35.2	39.8	4.5
Provide more information to visitors about appropriate behavior on river trips	88	2.9	8.0	9.1	62.5	15.9	4.5
Provide more information to visitors about the natural and cultural history of the area	87	3.3	1.1	1.1	66.7	29.9	1.1
Require first-time visitors to learn about appropriate behavior on river trips (e.g., watch a short video presentation)	87	2.5	14.9	27.6	35.6	14.9	6.9
Be more aggressive in enforcement of safety rules and regulations on or along the river	86	2.2	15.1	44.2	25.6	5.8	9.3
Prohibit canoes and kayaks from the river	87	1.2	81.6	18.4	0.0	0.0	0.0
Prohibit nonmotorized rafts from the river	88	1.1	85.2	14.8	0.0	0.0	0.0
Prohibit motorized rafts from the river	87	1.7	51.7	29.9	8.0	9.2	1.1
Prohibit personal watercraft (e.g., Jetski) from the river	87	3.4	6.9	10.3	13.8	65.5	3.4
Prohibit jetboats from the river	86	2.4	19.8	41.9	19.8	18.6	0.0
Restrict the number of people using the river at any one time	87	2.7	11.5	20.7	47.1	14.9	5.7
Limit the number of people <i>per group</i> allowed on the river	88	2.9	8.0	14.8	51.1	21.6	4.5
Improve loading areas at put-in and take-out points	88	2.7	12.5	15.9	47.7	14.8	9.1

Source: Question 3 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.4. Visitor response to potential management actions on the *Colorado River/Cataract Canyon* in Canyonlands National Park, by *commercial* parties.

Management action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
Require all boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary	296	2.5	15.5	26.7	32.4	15.9	9.5
Limit camping to designated campsites only	298	2.7	15.8	21.1	29.5	27.5	6.0
Provide more park rangers along the river to educate visitors about appropriate behavior	297	2.4	14.8	33.7	31.3	9.8	10.4
Provide more park rangers along the river to enforce rules and regulations	298	2.3	16.8	35.9	27.5	8.1	11.7
Provide more park rangers along the river for safety/search and rescue purposes	294	2.5	10.9	25.5	35.7	9.9	18.0
Limit the total number of watercraft allowed to use the river	296	3.0	8.1	13.2	39.5	31.1	8.1
Limit the number of canoes and kayaks allowed to use the river	296	2.5	14.2	31.1	35.5	13.2	6.1
Limit the number of nonmotorized rafts allowed to use the river	295	2.6	14.2	24.1	41.4	14.6	5.8
Limit the number of motorized rafts allowed to use the river	296	3.1	8.8	11.5	32.4	42.6	4.7
Limit the number of jetboats allowed to use the river	294	3.4	7.5	6.8	23.5	58.8	3.4
Provide more information to visitors about appropriate behavior on river trips	298	3.0	5.7	12.4	51.3	20.1	10.4
Provide more information to visitors about the natural and cultural history of the area	297	3.2	3.4	4.4	56.6	32.0	3.7
Require first-time visitors to learn about appropriate behavior on river trips (e.g., watch a short video presentation)	297	2.5	14.1	30.3	31.6	16.2	7.7
Be more aggressive in enforcement of safety rules and regulations on or along the river	295	2.4	13.6	34.9	27.1	8.1	16.3
Prohibit canoes and kayaks from the river	298	1.4	60.4	37.2	0.3	0.7	1.3
Prohibit nonmotorized rafts from the river	298	1.4	64.8	32.2	1.7	0.0	1.3
Prohibit motorized rafts from the river	297	1.8	39.4	41.8	7.4	7.4	4.0
Prohibit personal watercraft (e.g., Jetski) from the river	297	3.2	13.1	10.8	18.5	55.2	2.4
Prohibit jetboats from the river	296	2.6	17.9	28.4	18.6	28.0	7.1
Restrict the number of people using the river at any one time	296	3.0	9.1	12.8	44.6	27.4	6.1
Limit the number of people <i>per group</i> allowed on the river	295	2.9	8.8	15.9	40.3	28.8	6.1
Improve loading areas at put-in and take-out points	289	2.7	10.0	14.5	34.9	10.7	29.8

Source: Question 3 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.5. Visitor response to potential management actions on the *Green River/Cataract Canyon* in Canyonlands National Park, by *all* parties.

Management action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
Require all boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary	49	2.1	30.6	30.6	32.7	2.0	4.1
Limit camping to designated campsites only	50	2.4	22.0	32.0	26.0	16.0	4.0
Provide more park rangers along the river to educate visitors about appropriate behavior	49	2.1	24.5	38.8	14.3	8.2	14.3
Provide more park rangers along the river to enforce rules and regulations	50	2.0	26.0	42.0	10.0	10.0	12.0
Provide more park rangers along the river for safety/search and rescue purposes	48	2.3	18.8	31.3	29.2	8.3	12.5
Limit the total number of watercraft allowed to use the river	51	2.9	7.8	15.7	49.0	23.5	3.9
Limit the number of canoes and kayaks allowed to use the river	51	2.5	15.7	27.5	37.3	9.8	9.8
Limit the number of nonmotorized rafts allowed to use the river	51	2.6	15.7	21.6	45.1	11.8	5.9
Limit the number of motorized rafts allowed to use the river	51	3.2	7.8	7.8	33.3	43.1	7.8
Limit the number of jetboats allowed to use the river	51	3.7	2.0	5.9	13.7	70.6	7.8
Provide more information to visitors about appropriate behavior on river trips	49	2.8	6.1	16.3	59.2	10.2	8.2
Provide more information to visitors about the natural and cultural history of the area	51	3.0	6.0	10.0	58.0	22.0	4.0
Require first-time visitors to learn about appropriate behavior on river trips (e.g., watch a short video presentation)	49	2.6	14.3	30.6	30.6	18.4	6.1
Be more aggressive in enforcement of safety rules and regulations on or along the river	49	2.3	10.2	51.0	22.4	8.2	8.2
Prohibit canoes and kayaks from the river	51	1.3	62.7	33.3	0.0	0.0	3.9
Prohibit nonmotorized rafts from the river	51	1.3	70.6	27.5	0.0	0.0	2.0
Prohibit motorized rafts from the river	51	2.4	23.5	33.3	15.7	25.5	2.0
Prohibit personal watercraft (e.g., Jetski) from the river	51	3.6	5.9	0.0	21.6	66.7	5.9
Prohibit jetboats from the river	51	3.2	9.8	11.8	21.6	52.9	3.9
Restrict the number of people using the river at any one time	51	3.0	7.8	7.8	60.8	19.6	3.9
Limit the number of people <i>per group</i> allowed on the river	51	3.0	2.0	13.7	52.9	21.6	9.8
Improve loading areas at put-in and take-out points	50	2.5	8.0	30.0	44.0	6.0	12.0

Source: Question 3 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.6. Visitor response to potential management actions on the *Green River/Cataract Canyon* in Canyonlands National Park, by *private* parties.

Management action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
Require all boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary	19	1.6	63.2	15.8	21.0	0.0	0.0
Limit camping to designated campsites only	19	1.8	47.4	31.6	15.8	5.3	0.0
Provide more park rangers along the river to educate visitors about appropriate behavior	19	2.0	36.8	26.3	26.3	5.3	5.3
Provide more park rangers along the river to enforce rules and regulations	19	1.7	47.4	31.6	10.5	5.3	5.3
Provide more park rangers along the river for safety/search and rescue purposes	19	1.9	36.8	31.6	21.1	5.3	5.3
Limit the total number of watercraft allowed to use the river	19	2.9	10.5	21.1	31.6	31.6	5.3
Limit the number of canoes and kayaks allowed to use the river	19	2.4	21.1	21.1	42.1	10.5	5.3
Limit the number of nonmotorized rafts allowed to use the river	19	2.8	10.5	15.8	52.6	15.8	5.3
Limit the number of motorized rafts allowed to use the river	19	3.6	5.3	26.3	63.2	0.0	5.3
Limit the number of jetboats allowed to use the river	19	3.8	5.3	0.0	10.5	78.9	5.3
Provide more information to visitors about appropriate behavior on river trips	19	2.7	10.5	15.8	63.2	10.5	0.0
Provide more information to visitors about the natural and cultural history of the area	19	2.8	15.8	10.5	52.6	21.1	0.0
Require first-time visitors to learn about appropriate behavior on river trips (e.g., watch a short video presentation)	19	2.4	15.8	36.8	36.8	10.5	0.0
Be more aggressive in enforcement of safety rules and regulations on or along the river	19	2.1	15.8	52.6	26.3	0.0	5.3
Prohibit canoes and kayaks from the river	19	1.2	78.9	21.1	0.0	0.0	0.0
Prohibit nonmotorized rafts from the river	19	1.2	84.2	15.8	0.0	0.0	0.0
Prohibit motorized rafts from the river	19	2.8	21.1	21.1	15.8	42.1	0.0
Prohibit personal watercraft (e.g., Jetski) from the river	19	3.8	5.3	0.0	5.3	89.5	0.0
Prohibit jetboats from the river	19	3.4	10.5	5.3	21.1	63.2	0.0
Restrict the number of people using the river at any one time	19	2.8	15.8	5.3	57.9	21.1	0.0
Limit the number of people <i>per group</i> allowed on the river	19	3.4	0.0	0.0	57.9	36.8	5.3
Improve loading areas at put-in and take-out points	19	2.5	10.5	31.6	36.8	10.5	10.5

Source: Question 3 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.7. Visitor response to potential management actions on the *Green River/Cataract Canyon* in Canyonlands National Park, by *commercial* parties.

Management action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
Require all boaters to reserve their campsites at the beginning of their trip and maintain a predetermined itinerary	30	2.4	10.0	40.0	40.0	3.3	6.7
Limit camping to designated campsites only	31	2.8	6.5	32.3	32.3	22.6	6.5
Provide more park rangers along the river to educate visitors about appropriate behavior	30	2.1	16.7	46.7	6.7	10.0	20.0
Provide more park rangers along the river to enforce rules and regulations	31	2.3	12.9	48.4	9.7	12.9	16.1
Provide more park rangers along the river for safety/search and rescue purposes	29	2.6	6.9	31.0	34.5	10.3	17.2
Limit the total number of watercraft allowed to use the river	32	2.9	6.3	12.5	59.4	18.8	3.1
Limit the number of canoes and kayaks allowed to use the river	32	2.5	12.5	31.3	34.4	9.4	12.5
Limit the number of nonmotorized rafts allowed to use the river	32	2.4	18.8	25.0	40.6	9.4	6.3
Limit the number of motorized rafts allowed to use the river	32	3.0	9.4	12.5	37.5	31.3	9.4
Limit the number of jetboats allowed to use the river	32	3.6	3.1	6.3	15.6	65.6	9.4
Provide more information to visitors about appropriate behavior on river trips	30	2.8	3.3	16.7	56.7	10.0	13.3
Provide more information to visitors about the natural and cultural history of the area	31	3.1	0.0	9.7	61.3	22.6	6.5
Require first-time visitors to learn about appropriate behavior on river trips (e.g., watch a short video presentation)	30	2.7	13.3	26.7	26.7	23.3	10.0
Be more aggressive in enforcement of safety rules and regulations on or along the river	30	2.4	6.7	50.0	20.0	13.3	10.0
Prohibit canoes and kayaks from the river	32	1.4	53.1	40.6	0.0	0.0	6.3
Prohibit nonmotorized rafts from the river	32	1.4	62.5	34.4	0.0	0.0	3.1
Prohibit motorized rafts from the river	32	2.2	25.0	40.6	15.6	15.6	3.1
Prohibit personal watercraft (e.g., Jetski) from the river	32	3.4	6.3	0.0	31.3	53.1	9.4
Prohibit jetboats from the river	32	3.1	9.4	15.6	21.9	46.9	6.3
Restrict the number of people using the river at any one time	32	3.0	3.1	9.4	62.5	18.8	6.3
Limit the number of people <i>per group</i> allowed on the river	32	2.8	3.1	21.9	50.0	12.5	12.5
Improve loading areas at put-in and take-out points	31	2.6	6.5	29.0	48.4	3.2	12.9

Source: Question 3 of post-trip questionnaire.

* Means based on a 4-point scale: 1 =strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.8. For private parties on *Green River flatwater* trips, response to question 4 of the post-trip questionnaire: “In the trip diary portion of the questionnaire, you were asked to indicate a maximum number of watercraft for which the National Park Service should manage. If you did this, please indicate the extent to which you would support or oppose the following actions to ensure you did not see more watercraft than you indicated. Each of these actions is designed to manage the number of watercraft seen on the river, and each would require you to accept some regulation of use or to pay a higher fee.”

Action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
I would reserve a permit to use the river three months in advance because the number of watercraft using the river would be limited.	140	2.8	13.6	17.1	43.6	22.9	2.9
I would reserve a permit to use the river one year in advance because the number of watercraft using the river would be limited.	142	1.7	46.5	36.6	9.2	5.6	2.1
I would launch on an assigned date to spread use out on the river.	141	3.0	8.5	9.2	52.5	27.7	2.1
I would launch at an assigned time of the day to spread use out on the river.	140	2.7	12.9	19.3	49.3	15.7	2.9
I would reserve campsites in advance and maintain a predetermined itinerary to spread use out on the river.	140	1.8	41.4	42.9	10.7	3.6	1.4
I would limit the number of days of my trip so more groups can use the river.	140	2.0	27.1	42.1	25.0	2.1	3.6
I would pay 25% more for a commercial trip because the number of river trips would be limited.	135	2.4	22.2	24.4	24.4	16.3	12.6
I would pay 50% more for a commercial trip because the number of river trips would be limited.	135	1.9	33.3	31.1	7.4	10.4	17.8

Source: Question 4 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.9. For all parties on *Colorado River/Cataract Canyon* trips, response to question 4 of the post-trip questionnaire: “In the trip diary portion of the questionnaire, you were asked to indicate a maximum number of watercraft for which the National Park Service should manage. If you did this, please indicate the extent to which you would support or oppose the following actions to ensure you did not see more watercraft than you indicated. Each of these actions is designed to manage the number of watercraft seen on the river, and each would require you to accept some regulation of use or to pay a higher fee.”

Action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
I would reserve a permit to use the river three months in advance because the number of watercraft using the river would be limited.	363	2.7	11.6	19.8	45.7	16.5	6.3
I would reserve a permit to use the river one year in advance because the number of watercraft using the river would be limited.	363	1.8	33.1	47.1	9.4	4.1	6.3
I would launch on an assigned date to spread use out on the river.	361	3.0	8.9	9.4	53.2	24.7	3.9
I would launch at an assigned time of the day to spread use out on the river.	360	2.6	13.3	27.8	38.6	15.0	5.3
I would reserve campsites in advance and maintain a predetermined itinerary to spread use out on the river.	359	2.5	15.3	27.6	35.4	15.6	6.1
I would limit the number of days of my trip so more groups can use the river.	361	2.3	21.1	32.7	31.9	6.6	7.8
I would pay 25% more for a commercial trip because the number of river trips would be limited.	358	2.2	27.1	29.6	22.1	9.8	11.5
I would pay 50% more for a commercial trip because the number of river trips would be limited.	356	1.7	44.1	35.4	5.1	5.9	9.6

Source: Question 4 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.10. For *private parties* on *Colorado River/Cataract Canyon* trips, response to question 4 of the post-trip questionnaire: “In the trip diary portion of the questionnaire, you were asked to indicate a maximum number of watercraft for which the National Park Service should manage. If you did this, please indicate the extent to which you would support or oppose the following actions to ensure you did not see more watercraft than you indicated. Each of these actions is designed to manage the number of watercraft seen on the river, and each would require you to accept some regulation of use or to pay a higher fee.”

Action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
I would reserve a permit to use the river three months in advance because the number of watercraft using the river would be limited.	86	2.8	10.5	20.9	47.7	20.9	0.0
I would reserve a permit to use the river one year in advance because the number of watercraft using the river would be limited.	86	1.8	37.2	47.7	9.3	3.5	2.3
I would launch on an assigned date to spread use out on the river.	86	2.9	11.6	8.1	52.3	25.6	2.3
I would launch at an assigned time of the day to spread use out on the river.	85	2.2	22.4	40.0	30.6	5.9	1.2
I would reserve campsites in advance and maintain a predetermined itinerary to spread use out on the river.	85	2.2	24.7	36.5	30.6	8.2	0.0
I would limit the number of days of my trip so more groups can use the river.	85	2.2	23.5	38.8	31.8	4.7	1.2
I would pay 25% more for a commercial trip because the number of river trips would be limited.	82	2.3	28.0	20.7	17.1	18.3	15.9
I would pay 50% more for a commercial trip because the number of river trips would be limited.	81	2.0	37.0	24.7	8.6	14.8	14.8

Source: Question 4 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.11. For *commercial* parties on *Colorado River/Cataract Canyon* trips, response to question 4 of the post-trip questionnaire: “In the trip diary portion of the questionnaire, you were asked to indicate a maximum number of watercraft for which the National Park Service should manage. If you did this, please indicate the extent to which you would support or oppose the following actions to ensure you did not see more watercraft than you indicated. Each of these actions is designed to manage the number of watercraft seen on the river, and each would require you to accept some regulation of use or to pay a higher fee.”

Action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
I would reserve a permit to use the river three months in advance because the number of watercraft using the river would be limited.	277	2.7	11.9	19.5	45.1	15.2	8.3
I would reserve a permit to use the river one year in advance because the number of watercraft using the river would be limited.	277	1.8	31.8	46.9	9.4	4.3	7.6
I would launch on an assigned date to spread use out on the river.	275	3.0	8.0	9.8	53.5	24.4	4.4
I would launch at an assigned time of the day to spread use out on the river.	275	2.7	10.5	24.0	41.1	17.8	6.5
I would reserve campsites in advance and maintain a predetermined itinerary to spread use out on the river.	274	2.7	12.4	24.8	36.9	17.9	8.0
I would limit the number of days of my trip so more groups can use the river.	276	2.3	20.3	30.8	31.9	7.2	9.8
I would pay 25% more for a commercial trip because the number of river trips would be limited.	276	2.1	26.8	32.2	23.6	7.2	10.1
I would pay 50% more for a commercial trip because the number of river trips would be limited.	275	1.6	46.2	38.5	4.0	3.3	8.0

Source: Question 4 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.12. For all parties on *Green River/Cataract Canyon* trips, response to question 4 of the post-trip questionnaire: “In the trip diary portion of the questionnaire, you were asked to indicate a maximum number of watercraft for which the National Park Service should manage. If you did this, please indicate the extent to which you would support or oppose the following actions to ensure you did not see more watercraft than you indicated. Each of these actions is designed to manage the number of watercraft seen on the river, and each would require you to accept some regulation of use or to pay a higher fee.”

Action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
I would reserve a permit to use the river three months in advance because the number of watercraft using the river would be limited.	49	2.9	10.2	12.2	44.9	20.4	12.2
I would reserve a permit to use the river one year in advance because the number of watercraft using the river would be limited.	49	1.9	30.6	36.7	20.4	2.0	10.2
I would launch on an assigned date to spread use out on the river.	49	2.9	12.2	8.2	51.0	22.4	6.1
I would launch at an assigned time of the day to spread use out on the river.	49	2.4	14.3	38.8	30.6	12.2	4.1
I would reserve campsites in advance and maintain a predetermined itinerary to spread use out on the river.	49	2.2	22.4	32.7	32.7	4.1	8.2
I would limit the number of days of my trip so more groups can use the river.	49	2.1	22.4	30.6	28.6	0.0	18.4
I would pay 25% more for a commercial trip because the number of river trips would be limited.	46	2.3	19.6	34.8	19.6	10.9	15.2
I would pay 50% more for a commercial trip because the number of river trips would be limited.	45	2.0	33.3	35.6	8.9	11.1	11.1

Source: Question 4 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.13. For *private* parties on the *Green River/Cataract Canyon* trips, response to question 4 of the post-trip questionnaire: “In the trip diary portion of the questionnaire, you were asked to indicate a maximum number of watercraft for which the National Park Service should manage. If you did this, please indicate the extent to which you would support or oppose the following actions to ensure you did not see more watercraft than you indicated. Each of these actions is designed to manage the number of watercraft seen on the river, and each would require you to accept some regulation of use or to pay a higher fee.”

Action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
I would reserve a permit to use the river three months in advance because the number of watercraft using the river would be limited.	19	2.8	21.1	5.3	36.8	31.6	5.3
I would reserve a permit to use the river one year in advance because the number of watercraft using the river would be limited.	19	2.1	31.6	31.6	31.6	5.3	0.0
I would launch on an assigned date to spread use out on the river.	19	2.7	26.3	5.3	42.1	26.3	0.0
I would launch at an assigned time of the day to spread use out on the river.	19	2.0	31.6	42.1	21.1	58.3	0.0
I would reserve campsites in advance and maintain a predetermined itinerary to spread use out on the river.	19	1.7	47.4	36.8	10.5	5.3	0.0
I would limit the number of days of my trip so more groups can use the river.	19	1.9	42.1	21.1	31.6	0.0	5.3
I would pay 25% more for a commercial trip because the number of river trips would be limited.	16	2.4	31.3	12.5	18.8	25.0	12.5
I would pay 50% more for a commercial trip because the number of river trips would be limited.	16	2.3	37.5	12.5	12.5	25.0	12.5

Source: Question 4 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

Table K.14. For *commercial* parties on *Green River/Cataract Canyon* trips, response to question 4 of the post-trip questionnaire: “In the trip diary portion of the questionnaire, you were asked to indicate a maximum number of watercraft for which the National Park Service should manage. If you did this, please indicate the extent to which you would support or oppose the following actions to ensure you did not see more watercraft than you indicated. Each of these actions is designed to manage the number of watercraft seen on the river, and each would require you to accept some regulation of use or to pay a higher fee.”

Action	N	Mean*	Percent of respondents by response category				
			Strongly oppose	Oppose	Support	Strongly support	Don't Know
I would reserve a permit to use the river three months in advance because the number of watercraft using the river would be limited.	30	2.9	3.3	16.7	50.0	13.3	16.7
I would reserve a permit to use the river one year in advance because the number of watercraft using the river would be limited.	30	1.8	30.0	40.0	13.3	0.0	16.7
I would launch on an assigned date to spread use out on the river.	30	3.0	3.3	10.0	56.7	20.0	10.0
I would launch at an assigned time of the day to spread use out on the river.	30	2.7	3.3	36.7	36.7	16.7	6.7
I would reserve campsites in advance and maintain a predetermined itinerary to spread use out on the river.	30	2.5	6.7	30.0	46.7	3.3	13.3
I would limit the number of days of my trip so more groups can use the river.	30	2.2	10.0	36.7	26.7	0.0	26.7
I would pay 25% more for a commercial trip because the number of river trips would be limited.	30	2.2	13.3	46.7	20.0	3.3	16.7
I would pay 50% more for a commercial trip because the number of river trips would be limited.	29	1.8	31.0	48.3	6.9	3.4	10.3

Source: Question 4 of post-trip questionnaire.

* Means based on a 4-point scale: 1=strongly oppose, 2=oppose, 3=support, 4=strongly support, excluding “don’t know” responses.

L. Visitor Feelings About the River Trip

Table L.1. Response to question 5: “Please indicate the extent to which each statement below describes your feelings about the rivers you were on in Canyonlands National Park,” for *private* parties on *Green River flatwater* trips.

Statement	N	Mean*	Percent of respondents by response category				
			Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I would prefer to spend more time here if I could.	142	4.3	0.0	4.2	14.1	31.7	50.0
No other place can compare to this area.	142	4.0	2.8	9.9	13.4	35.2	38.7
I am very attached to this place.	142	3.9	0.0	6.3	25.4	36.6	31.7
The time I spent here could have just as easily been spent somewhere else.	140	1.9	49.3	27.1	12.9	7.9	2.9
I identify strongly with this place.	138	3.8	0.0	8.7	29.0	32.6	29.7
I get more satisfaction out of visiting this place than from visiting any other.	142	3.1	4.9	22.5	38.0	22.5	12.0
I feel like this place is a part of me.	139	3.5	2.9	15.8	32.4	25.2	23.7
This area is the best place for what I like to do.	140	3.4	2.1	15.7	37.9	25.7	18.6
This place means a lot to me.	141	4.2	1.4	0.7	15.6	40.4	41.8
This place makes me feel like no other place can.	140	3.6	2.9	11.4	34.3	29.3	22.1
This place is very special to me.	142	4.2	1.4	3.5	16.9	34.5	43.7
I can’t imagine another place for what I like to do.	139	3.3	5.8	18.0	31.7	29.5	15.1

Source: Question 5 of post-trip questionnaire.

* Means based on a 5-point scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

Table L.2. Response to question 5: “Please indicate the extent to which each statement below describes your feelings about the rivers you were on in Canyonlands National Park,” for *all* parties on *Colorado River/Cataract Canyon* trips.

Statement	N	Mean*	Percent of respondents by response category				
			Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I would prefer to spend more time here if I could.	386	4.2	0.8	4.1	15.3	35.0	44.8
No other place can compare to this area.	383	3.6	2.3	13.3	25.8	33.7	24.8
I am very attached to this place.	384	3.7	2.1	6.8	30.5	40.1	20.6
The time I spent here could have just as easily been spent somewhere else.	383	2.1	32.1	38.9	14.1	12.3	2.6
I identify strongly with this place.	382	3.7	1.3	6.5	33.2	39.3	19.6
I get more satisfaction out of visiting this place than from visiting any other.	383	2.9	5.5	27.7	42.6	16.4	7.8
I feel like this place is a part of me.	382	3.3	4.2	17.3	37.7	28.3	12.6
This area is the best place for what I like to do.	381	3.2	3.7	17.3	48.6	19.9	10.5
This place means a lot to me.	382	4.0	1.0	4.5	20.4	43.7	30.4
This place makes me feel like no other place can.	379	3.3	3.7	17.2	39.3	26.9	12.9
This place is very special to me.	381	3.9	1.0	5.0	22.3	42.5	29.1
I can’t imagine another place for what I like to do.	378	3.1	4.2	19.6	48.1	18.5	9.5

Source: Question 5 of post-trip questionnaire.

* Means based on a 5-point scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

Table L.3. Response to question 5: “Please indicate the extent to which each statement below describes your feelings about the rivers you were on in Canyonlands National Park,” for *private* parties on *Colorado River/Cataract Canyon* trips.

Statement	N	Mean*	Percent of respondents by response category				
			Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I would prefer to spend more time here if I could.	88	4.5	0.0	1.1	8.0	29.5	61.4
No other place can compare to this area.	88	3.8	1.1	10.2	22.7	36.4	29.5
I am very attached to this place.	87	3.9	2.3	2.3	20.7	51.7	23.0
The time I spent here could have just as easily been spent somewhere else.	88	2.0	33.0	45.5	11.4	9.1	1.1
I identify strongly with this place.	88	4.0	0.0	2.3	22.7	44.3	30.7
I get more satisfaction out of visiting this place than from visiting any other.	88	3.1	3.4	21.6	44.3	18.2	12.5
I feel like this place is a part of me.	88	3.6	1.1	10.2	34.1	35.2	19.3
This area is the best place for what I like to do.	88	3.3	2.3	14.8	42.0	28.4	12.5
This place means a lot to me.	88	4.3	0.0	1.1	11.4	47.7	39.8
This place makes me feel like no other place can.	87	3.4	2.3	17.2	37.9	27.6	14.9
This place is very special to me.	88	4.1	0.0	4.5	14.8	46.6	34.1
I can’t imagine another place for what I like to do.	88	3.3	2.3	18.2	42.0	26.1	11.4

Source: Question 5 of post-trip questionnaire.

* Means based on a 5-point scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

Table L.4. Response to question 5: “Please indicate the extent to which each statement below describes your feelings about the rivers you were on in Canyonlands National Park,” for *commercial* parties on *Colorado River/Cataract Canyon* trips.

Statement	N	Mean*	Percent of respondents by response category				
			Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I would prefer to spend more time here if I could.	298	4.1	1.0	5.0	17.4	36.6	39.9
No other place can compare to this area.	295	3.6	2.7	14.2	26.8	32.9	23.4
I am very attached to this place.	297	3.6	2.0	8.1	33.3	36.7	19.9
The time I spent here could have just as easily been spent somewhere else.	295	2.2	31.9	36.9	14.9	13.2	3.1
I identify strongly with this place.	294	3.6	1.7	7.8	36.4	37.8	16.3
I get more satisfaction out of visiting this place than from visiting any other.	295	2.9	6.1	29.5	42.0	15.9	6.4
I feel like this place is a part of me.	294	3.2	5.1	19.4	38.8	26.2	10.5
This area is the best place for what I like to do.	293	3.1	4.1	18.1	50.5	17.4	9.9
This place means a lot to me.	294	3.9	1.4	5.4	23.1	42.5	27.6
This place makes me feel like no other place can.	292	3.3	4.1	17.1	39.7	26.7	12.3
This place is very special to me.	293	3.9	1.4	5.1	24.6	41.3	27.6
I can’t imagine another place for what I like to do.	290	3.0	4.8	20.0	50.0	16.2	9.0

Source: Question 5 of post-trip questionnaire.

* Means based on a 5-point scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

Table L.5. High points of the trip for parties who listed at least one thing they liked best about their river trip, by type of river trip.

Liked most	Green River flatwater			Colorado River/ Cataract Canyon		
	N	%*	%**	N	%*	%**
Archeological or cultural sites	25	6.3	18.7	48	3.4	10.0
Scenery, views, landscape	88	22.3	65.7	261	18.5	54.3
Solitude, peacefulness, quietness, isolation	87	22.1	64.9	172	12.2	35.8
Hiking/walking, exploring canyons	22	5.6	16.4	90	6.4	18.7
Relaxation, rest, slow pace, no hurry	6	1.5	4.4	20	1.4	4.2
Nice/clean/unimpacted campsites	7	1.8	5.2	33	2.3	6.9
Rapids, whitewater, scouting rapids	0	0.0	0.0	180	12.7	37.4
Lunch, dinner, food, drink	0	0.0	0.0	16	1.1	3.3
The water/river	1	0.3	0.7	5	0.4	1.0
Comradery, bonding, interaction with others	17	4.3	12.7	98	6.9	20.4
Outfitter employees, guides, crew (e.g., shuttle driver)	6	1.5	4.5	74	5.2	15.4
Camping	5	1.3	3.7	30	2.1	6.2
Wildlife	13	3.3	9.7	26	1.8	5.4
Geology, canyon walls, rock formations	13	3.3	9.7	39	2.8	8.1
Canoeing, floating, rafting, kayaking	11	2.8	8.2	17	1.2	3.5
Meeting new people, other groups	2	0.5	1.5	14	1.0	2.9
Learning about the area	4	1.0	3.0	14	1.0	2.9
Weather, weather phenomena, climate	4	1.0	3.0	12	0.8	2.5
Challenge, independence, freedom, adventure	11	2.8	8.2	24	1.7	5.0
Undeveloped river/area, being on the river	29	7.4	21.6	89	6.3	18.5
Stars, moon, meteors, night sky	1	0.3	0.7	8	0.6	1.7
History of the area	2	0.5	1.5	7	0.5	1.5
Other	40	10.1	29.8	137	9.7	28.4
Total	394	100.0	--	1,414	100.0	--

Source: Question 6 of post-trip questionnaire.

* Percentage based on total number of *responses*. Respondents could give a maximum of 3 responses. (Green River N=394, Colorado River N=1,414).

** Percentage based on total number of *respondents*. (Green River N=134, Colorado River N=481).

NOTE: An earlier version of the post-trip questionnaire did not ask respondents to list what they liked least about their trip. Three respondents on the Green River and 14 respondents on the Colorado River did not have the opportunity to answer this question.

Table L.6. Low points of the trip for parties who listed at least one thing they liked least about their river trip, by type of river trip.

Liked least	Green River flatwater			Colorado River/ Cataract Canyon		
	N	%*	%**	N	%*	%**
Couldn't find site of interest/trail	0	0.0	0.0	39	4.0	9.0
Insects (e.g., mosquitoes, flies)	33	10.9	26.2	62	6.4	14.4
Toilet, sanitation facilities	2	0.7	1.6	33	3.4	7.7
Finishing trip, last day, trip too short	3	1.0	2.4	28	2.9	6.5
Tamarisk (e.g., blocked shore access)	28	9.2	22.2	37	3.8	8.6
Commercial guides/trips, guided tours	2	0.7	1.6	14	1.5	3.2
Lake Powell (e.g., alteration of original landscape)	0	0.0	0.0	38	3.9	8.8
Litter, human waste	3	1.0	2.4	22	2.3	5.1
Personal watercraft (e.g., Jetski)	3	1.0	2.4	15	1.6	3.5
Toilet facilities at put-in or take-out	7	2.3	5.6	17	1.8	3.9
Motorized watercraft (e.g., noise, smell, wake)	31	10.2	24.6	76	7.9	17.6
Sharing a campsite	6	2.0	4.8	9	0.9	2.1
Filling out the survey	2	0.7	1.6	10	1.0	2.3
Plane overflights	15	5.0	11.9	17	1.8	3.9
Competition for campsites	27	8.9	21.4	55	5.7	12.8
Unpleasant social encounters, noise of others	22	7.3	17.5	40	4.2	9.3
Injury, accident, emergency, getting ill	3	1.0	2.4	9	0.9	2.1
Low water, lack of rapids, rapids not big/long enough	4	1.3	3.2	56	5.8	13.0
Large groups (including own group)	16	5.3	12.7	34	3.5	7.9
Lack of info about campsites/points of interest	6	2.0	4.8	12	1.2	2.8
Too many other boats/people	10	3.3	7.9	28	2.9	6.5
Weather (e.g., too hot, too windy)	25	8.2	19.8	77	8.0	17.9
Motoring on flatwater	0	0.0	0.0	16	1.7	3.7
Jeep/ATV noise on Rimroad	6	2.0	4.8	7	0.7	1.6
Campsite	1	0.3	0.8	7	0.7	1.6
Sand	0	0.0	0.0	5	0.5	1.2
Silty, dirty, brown water	0	0.0	0.0	9	0.9	2.1
Vandalism	2	0.7	1.6	3	0.3	0.7
Other	46	15.2	36.5	188	19.5	43.5
Total	303	100.0	--	963	100.0	--

Source: Question 6 of post-trip questionnaire.

* Percentage based on total number of *responses*. Respondents could give a maximum of 3 responses. (Green River N=303, Colorado River N=963).

** Percentage based on total number of *respondents*. (Green River N=126, Colorado River N=431).

NOTE: An earlier version of the post-trip questionnaire did not ask respondents to list what they liked least about their trip. Three respondents on the Green River and 14 respondents on the Colorado River did not have the opportunity to answer this question.

Table L.7. Overall satisfaction with river trip in Canyonlands National Park, by type of river trip.

Level of satisfaction	Green River flatwater		Colorado River/ Cataract Canyon	
	N	%	N	%
Very satisfied	113	80.1	283	74.1
Satisfied	24	17.0	81	21.2
Neither satisfied nor dissatisfied	1	0.7	2	0.5
Dissatisfied	0	0.0	2	0.5
Very dissatisfied	0	0.0	3	0.8
Question not asked*	3	2.1	11	2.9
Total	141	100.0	382	100.0

Source: Question 7 of post-trip questionnaire.

* An earlier version of the post-trip questionnaire did not include this question.

Table L.8. Overall satisfaction with river trip on the *Colorado River/Cataract Canyon* in Canyonlands National Park, by *private and commercial* parties.

Level of satisfaction	Private		Commercial	
	N	%	N	%
Very satisfied	67	77.0	216	73.2
Satisfied	17	19.5	64	21.7
Neither satisfied nor dissatisfied	0	0.0	2	0.7
Dissatisfied	0	0.0	2	0.7
Very dissatisfied	5	1.1	2	0.7
Question not asked*	2	2.3	9	3.1
Total	87	100.0	295	100.0

Source: Question 7 of post-trip questionnaire.

* An earlier version of the post-trip questionnaire did not include this question.

M. Making Reservations or Obtaining Permits

Table M.1. Length of time prior to trip when permit was reserved or reservation was made for river trip in Canyonlands National Park, by type of river trip.

Length of time	Green River flatwater		Colorado River/ Cataract Canyon	
	N	%	N	%
24 hours or less	6	4.2	2	0.6
More than 24 hours in advance	7	4.9	8	2.2
More than 1 week up to 1 month	36	25.2	50	13.9
More than 1 month up to 6 months	79	55.2	227	63.2
More than 6 months up to 1 year	15	10.5	68	18.9
More than 1 year	0	0.0	4	1.1
Total	143	100.0	359	100.0

Source: Question 9 of post-trip questionnaire.

Table M.2. Length of time prior to trip when permit was reserved or reservation was made for river trip on the Colorado River/Cataract Canyon in Canyonlands National Park, by *private and commercial* parties.

Length of time	Private		Commercial	
	N	%	N	%
24 hours or less	0	0.0	2	0.7
More than 24 hours in advance	2	2.5	6	2.1
More than 1 week up to 1 month	10	12.7	40	14.3
More than 1 month up to 6 months	49	62.0	178	63.6
More than 6 months up to 1 year	18	22.8	50	17.9
More than 1 year	0	0.0	4	1.4
Total	79	100.0	280	100.0

Source: Question 9 of post-trip questionnaire.

N. Open-ended Comments

Table N.1. Response to: “If you could ask park managers to improve some things about river use in Canyonlands National Park, what would you ask them to do?” by type of river trip.

Comments	Green River flatwater		Colorado River/ Cataract Canyon	
	N	%	N	%
Yes	119	82.6	259	66.4
No	25	17.4	131	33.6
Total	144	100.0	390	100.0

Source: Question 10 of post-trip questionnaire.

Table N.2. Response to: “If you could ask park managers to improve some things about river use in Canyonlands National Park, what would you ask them to do?” by *private and commercial* parties on the *Colorado River/Cataract Canyon* trips.

Comments	Private		Commercial	
	N	%	N	%
Yes	71	80.7	188	62.3
No	17	19.3	114	37.7
Total	88	100.0	302	100.0

Source: Question 10 of post-trip questionnaire.

APPENDIX F

Reasons for Giving a Watercraft Encounter Rating of Less than Zero (a negative number)
from Question 4 of the Trip Diary

Green River

Reasons for Giving a Watercraft Encounter Rating of Less than Zero (a negative number)
Verbatim comments -- question 4, column C "something else"

Motorized

Destroyed silence

One large group of 10 canoes

Would be more of a negative, but most were parked. Lots in a concentrated area. Competition for campsites. Competition for campsites. We would have felt more negative about this amount, but most passed us while we were camping and not on the water.

All were in camps; was difficult to find an open camp again.

Availability of campsites because we wanted to stay up river.

Same group of unfriendly people as yesterday, they blocked access to our planned hike today. Yesterday they wouldn't let us tie up with them so we could do a hike to the ruins.

Could see & hear people in vehicles (shouting); detracted from experience on river.

They were rude.

All looking to crash my camp & privacy--really annoying. I don't think motors belong in a national park (except for rangers or rescue work). Some corridors are way too busy for solitude. Visual intrusions and jet flyovers detract greatly from the wilderness experience. I don't like motors but they left quickly. More camping congestion downstream to look forward to. Camping congestion, visual intrusions. Noisy. O.k. except for the motor rig. Rude jerks group conflicts. Rude jerks who crashed our camp.

Noise/not appropriate. Noise.

Start the trip being nice & quiet. You've got to be kidding. Motors not needed.

Discontinuity. Invasion of privacy (slight). Noise.

Noise, odor, sandbar erosion, out of keeping with wilderness setting.

Noise--loud people. Motor noise that could be heard coming/going.

Sound & smell of motor. The motors are noisy and smelly.

Noise!

All launching at same time at same place. Should not be permitted.

Too many people--noise. Loud talking--stereos. Too many craft. NOISE! It is 20 min of NOISE and the peace shattered! Again, the NOISE of the motor coming--passing--going. Noise, smell, disturbed the quiet & peace. Why can't they take the Colorado if they are in a hurry? Canoes didn't disturb the quiet. But, again, the motors were very intrusive.

Noise/loud voices. Too many loud people. Damn motor noise! Noise/smell/indifference. Keep motors off the Green!

Noise, disruption of water flow. Loud noise, was idling against the current & not going anywhere.

Unsightly beer belly. Competition for limited campsites. Totally unacceptable--noise. #'s & motors! Should be outlawed from Green. Motors!!!!

To many damn people. Wilderness exp. Too many people--would rather have to skip a year & encounter fewer people. No motor on the Green River.

Dory. Seems like a lot of crafts. Hopefully it'll spread out. The put in spot was dreadfully crowded (Mineral). Don't want to see or hear any damn motors! Don't want to see any stinking motors on the river. I averaged the 2 circled. The motor raft really irked us. Don't want to see/ hear motor craft on the river. + proximity to us.

No real impact.

Motor noise. Noise.

Motor--there is something pristine about not hearing motors in a back-country trip.

Rather be alone on river quietly. Noisy & they go by twice or more pace. Too many noisy jet boats.

Noise; wake.

Please, no motors. Please, no motors. We heard the motor several times during the day--quiet is better. The motorized rafts passed us 3 times with the motors--motors spoil the atmosphere. Motors spoil the silence.

Motorized boats in river.

Noise level \simeq 20 people. Noise level.

Loud.

Noise from large groups. Noise.

Problem is not seeing them but competition for campsites.

The noise!

Noisy people. Rafts. Noisy people. Rafts. Noisy. Rafts. Shortage of campsites. Noisy.

They camped on top of us--with 12 people--a commercial group. Loud & drunken. (1 party) all close to where we were. All camped where we were.

Motors!!

One of the rafts was empty. We didn't think it was right to be making noise w/ an empty raft.

Engine noise! Noise. Occupants (2) very nasty & territorial in large group site. Motor sound.

Noise/dangerous horseplay. Noise. Noise.

Noise, fumes, oil on water--bozo operators.

Campsites are scarce and small-raft parties large. Noisy group, large, supporting kayaks.

Sound. Noise, let them have Lake Powell. Loud, smell of fuel.

Loud people, too many people in one craft.

They invaded our tiny beach for lunch. Big group (6).

Didn't mind seeing bicycles. Seemed out of place seeing 4WD vehicles moving along to shore of the river.

Quiet & tranquility is extremely important in this magnificent area. Wonderfully acceptable to see nobody! Please no [jet boats]! So peaceful.

Competitors from rafting co's. Broke the peacefulness (tranquility) of the moment.

Large groups quite noisy. Noisy. They were all bunched up at Water Canyon.

I've never seen motorized boats on the Green! Dislike motorized boats!

Noise. Noise, # of people on it.

Noise, speed. Size and speed. Wake in water next to us. Camping spots unavailable.

Motor running.

Motorized. Noise.

Noise & smell & wake. Don't want to see them at all.

Motors, noise.

Motor in wild river. Motorized craft damages the senses.

Noise for miles before they are in sight. Noise.

Was up & down river 2-3 times each of first two days. Came here to be away from motors! Was Fish & Game officer. Could do with less rafts & no motors.

Noise. Rowdy group all 7 rafts lashed together--urinating off the raft (too much beer?),

Who let Bubba on the river? Groups too large. Group size too large.

Noise. Noise.

Not on--are they allowed past Mineral Bottom? I understand we are down by the confluence.

#1 personally do not want to see any motor craft. #2 solo any (Park Ranger)--reel PFD did not cut his engine when he passed us on the river. Afraid it will become "just another rafting river." #1 motor craft. #2 anxious about finding a campsite.

OK because we got a good campsite--because water is ve high and sandbar camping = non-existent! Motor disruptive to canyon quiet. Smell, noise. Boat w/motor off OK. Noise and smell disruptive.

Loud/smelly but friendly. 1 boat had the motor off. Disrupting/really disrupting in the canyon. Motor is disruptive.

No motors please.

Noise of motor.

Motor traffic; searching out campsite. Motor traffic; searching out campsites acting as support craft. Noise, motor craft searching out campsites.

Noise, wake. Noise, wake.

Large group, motors. A large group & motors. Drunk load.

Motor.

Motors. Noisy/polluting.

Motors disturbing in wilderness.

Noise, both people & motors.

Motor craft are intrusive of a quiet surrounding. Smelly, too much noise, disturbs the peace. Motor driven craft detract from the experience.

We needed transportation to a hospital for scorpion victim.

After traveling all day, they had our campsite.

Canoes are a pleasing sight.

Noise. Noise. Canoes were quiet, considerate. Rafts [7] went by separately over 2 hr period. Bozos.

Colorado River

Reasons for Giving a Watercraft Encounter Rating of Less than Zero (a negative number)
Verbatim comments -- question 4, column C "something else"

Wilderness ain't for motorized tourists.

Noise, wake.

River contamination. Fuel contam.

Motors unexceptable. Lf rafts or other non motors o.k. No motors.

Noise pollution. Motor = noise pollution. Motors ruin the experience.

Jetskis.

Noise, smell.

Noise.

Went by too fast and caused big wake.

Wake, distraction. Sound, wakes. 1-the only craft encountered todate to slow when passing.

Noise.

Noise/go to a lake. The noise.

Noise.

Noise.

Noise & wakes. Noise, many people.

Noise/fumes.

Everyone sees all motor boats, but not necessarily true of rafts. Came so close together. Mass transit effect. They shouldn't be here.

Noisy, polluting motor. Obnoxious, loud motor. Motors!

Noise.

Engine noise. Questionable hygiene (seemingly allowing passengers to urinate on shoreline.)

A few ok but need controls of these.

Need to be quieter and slower.

Intrusive, noise, erosion.

Sound, speed. Destructive, sound. Noise. Noise, pollution. Intrusive, people.

Intrusion of noise on the silence. Noise intrusion.

Potential shore/bank erosion from wake (noise). The vying for camping sites.

Noise. The wake upset raft. Too many day trippers. Motors.

Too many/noisy.

Better if not electric. Motor is loud & annoying. No motor boats any thing without motor okay. Too many jet boats.

Noise.

Jet boats were not doubling.

All were courteous, but loud. But spread out quickly. Noise. Noise & need to get to camp signup box.

Noise, speed, pollution. Motors.

Noise.

Too much noise; unnatural; too commercial. Too commercial.

Noise. Noise, wake, possible river damage, brakes river serenity.

Noise, wake, less feeling of wilderness type experience.

1 [name] jetboat did not slow down. The rafts & kayaks all came by in only 2 large groups--the river seemed quieter today.

1 group-advertising cigarettes "[brand of cigarette]" team.

Noise.

Noise, waves.

Noise level.

I think the river should be free of motors. No motors PLEASE. No motors in NP land. No motors. No motors! Too many!

No motors! No motors! No motors! Cease noise. Cease noise. Noise. Noise. Noise.

Noise, wake. Big wake. Didn't slow down, big wake.

Noisy. Noisy.

Noise. Destroys the wilderness experience. Noise and size.

Don't feel that they belong here.

The motor/wakes. We don't mind--we wouldn't expect not to see anyone. We like that people are using park.

Very loud, disruptive private group of 3 rafts. Behavior of group.

Speed/commercial aspect.

Noise, its too fast to see anything very good.

Why can't they just float??? Nice to not see other boats. The noise of these boats really changes the mood.

Noise.

Noise other than nature.

Noise.

Noise. Noise/wake.

Noise, odor.

Speed, wake.

Rafts should only be permitted. Jetboats other than support for rafts are unacceptable.

Conflict for camp facilities. Noise.

Motors spoiled the experience. Motor. Motors & the large jet boats made it seem commercial. We kept on running into groups, but yesterday was noisy.

Noise. Noise.

Noise. Noise.

Interference with solitude & natural beauty of trip. I just don't like the noise.

Loud, disruptive. Loud, disruptive, polluting. Motors. Loud. Left huge wake, rude. Loud, disrupted quiet. Motors. Left wakes. Loud, disruptive. Motors. Motors, loud. Motors.

Shuttling up & down river is intrusive. Motorized watercraft are much more intrusive.

When you're riding in a jet boat you're more open to similar traffic.

Smelly. Loud, stinky. Noisy, fast, braggarts.

Noise. Noise of the boats.

Loud too much waves from them.
Sound of motor.

Noise.

Number of people on each raft 40+. Noise!

Noise, cheapening of nature experience.

Motors interrupt the solitude. Noisy--concerned about wave action on beach.

Noise speed wake & exh fumes. Fumes noise hazard. Competition for spaces.

Noise, noise.

Motors suck and should be for enforcement not running river!

Motor. Motors.

Engine exhaust, sound & smell. Engine noise & smell. Noise, smell & wake. Noise, smell, wake, attitude.

Noise.

Motors. Motors/sound vibration damage to river.

Esthics.

Noise/wake.

Noise.

Noise too loud.

Noise. Noise, little of both.

Sound, smell, wake. Noise disturbs canyon peace.

Noise.

Noise, wake.

Noise. Large prop boat.

Don't fit theme of river sights.

Intrusion, noise, #, speed. Too many jet boats, noise, erosion, intrusion. Intrusion, noise, erosion. Too many Jet Boats.

Noise.

Too noisy.

Noise/water disturbance. Noise. Noise. Noise/number.

The noise. Number of people. Too noisy.

Lewd behavior.

Noise.

Large rigged group at one point--too much.

Wake.

Seemed to be empty--why?

Noise, gasoline smell. Noise, smell of gasoline. The motorized raft was with us (we were canoeing) almost the whole day because they'd stop, lunch, hike and catch up with us.

Noise.

Noise.

Looks like a circus. Too many people on 5 rigs to have a fulfilling experience.

Too noisy.

Takes away from wilderness experience (noisy). Same as before, noise.

Unnatural sound associated with motor. Loud motor and waves (obnoxious). Motor, waves.

Speed, noise, stink. Noise. Noise. Lack of adequate camp sites, noise, lack of solitude.

Noise/speed.

Noise! (& wake though they did slow). Size of party 6 rafts in a bunch is too many. Noise.

Noise. Noise. Don't like motors in backcountry.

Commercial outfit told us to get off the sand they were camping on. We were crossing to see the Indian Ruins at Lathrop.

Noise.

Noise level.

Discourteous individuals--rude.

Noise of motors ↓ tranquility of river.

Noise disturbance to nature.

Cataract Canyon

Reasons for Giving a Watercraft Encounter Rating of Less than Zero (a negative number)
Verbatim comments -- question 4, column C “something else”

One of these was too big (35 occupants)

Number, noise, wake.

Motors.

Noise.

The wake caused the sand beach where we ate lunch to collapsed into the water.

Noise, wakes, speed. Don't mind boats that tow out rafts hate pleasure/speed boats hate PWCs (didn't see any until Hite).

Noise.

They didn't register for the campsite.

[Brand of cigarette] sponsorship.

Noise.

They cut our group off in the rapids.

They cut our group off on the rapids.

Motor noise. Noise. Had to worry about craft while going through rapids.

Noise. Noisy motors.

Dangerous to tie 3 rafts together. Object strongly to this craft in this kind of water.

Loud.

Engine noise.

Motors.

Motorized.

Noise.

Motor noise. [Brand of cigarette] on the side of several boats.

Motor pollution. (149/1)

Lake Powell

Reasons for Giving a Watercraft Encounter Rating of Less than Zero (a negative number)
Verbatim comments -- question 4, column C "something else"

Noise, running around disturbs solitude & wildness atmosphere.

Motors. Motors--loud, disruptive.

This is a lake after all! These have a place on our waterways [jet skis].

Hate jet boats.

Dumpy.

Jet skis at bottom on canyon.

Noise & people.

Other rafts were too full--about 30 people per raft.

Hate jet boats.

Speed of crafts & noise.

Noise from jet skis.

Wanted solitude! Noisy and polluting.

Speed boats.

You know why.

Rude, unsafe. Dangerous in the last couple rapids after Deep Drop 3.

Would like to see more man-powered boats. Doesn't fit natural theme of surroundings [skiers].

Motor.

Noisy/polluting.

Noise. Noise, filth in Lake Powell.

Noise/number.

Noise!

Promote the use of watercraft that do not use gas motors.

Noise.

Weekend--would expect more.

All had motors.

Just didn't seem right.

A bunch of rafts were tied together, going as one large raft with, I think, a few motors.

Ski boats seem out of place in upper reaches of Lake Powell near end of river run.

Ski boats in Lake Powell up by the river canyon area.

Prefer quiet.

Ruin the impact of the last 3 days.

Noise, wake, detracts from wilderness type experience.

Noise.

Noise!

Noise.

Too fast--too many motors.

Noise and speed.

Excessive speed.

APPENDIX G

Verbatim Comments from Question 10 of Post-trip Questionnaire

Green River - Responses to Question 10

Distribute information on Indian ruins, # campsites and where they are along the rivers.

Mark the campsites.

For more information as to what to see and where clearer water might be located.

Rule out any & all motorized watercraft!

Feel the system is pretty good right now other than possible limiting number of people during peak season feel system is reasonable.

Cut down some of the tamarisk trees.

Keep # of watercraft low.

Please don't permit the # of visitors--because it doesn't address the problem--educate people--I had as much right to be there as did everyone else--people need to be educated--permits don't clean campsites or keep yelling down. Though we had appropriate info w/ regards to behavior--those that we encountered--those conditions that were a problem seemed to stem from people not being aware of appropriate behavior. Perhaps they put in themselves?

Keep the Green River designated as a non-motorized wild river for use to kayaks and canoes only.

Brushing of tamarisk around campsites.

Drown the tamarisk by releasing more water from the dams, periodically. (Hydrologists are presently studying this possibility.) Reducing or eradicating the tamarisk would reduce the number of mosquitoes. Prohibit motorized water craft--except for official uses (rescues, scientists conducting research, etc.). Boats picking up passengers at the confluence should be allowed.

Get rid of the tamarisk!

Limit use through permits, but no lottery.

Establish riparian vegetation management plan--put people into the field to better control tamarisk negative impacts on camping & native vegetation.

Restrict group size.

Eliminate power boats/rafts from Green River & find method to destroy tamarisk.

Improve the information available. I.e. I asked about mosquitoes and nobody had an accurate answer about them.

Don't let the river get any more crowded than it is now. So far the river is in great shape & is clean & free of trash--but I am concerned if too many people get on. Only problem we had was finding a campsite due to the high water, not due to other campers. The campsites were in great shape this is the 4th time I have been down this river and there is still very little sign of human useage--saw no trash along river which makes this a great experience.

They are doing a very good job now. We did not feel overly regulated, yet conditions were clean (at campsites) and

we felt we were in a wilderness atmosphere. This may not be the case on the more traveled Colorado River or in a more popular time of year on the Green R.?? Saw only one large group paddle past our campsite. Closer contact with large groups would have been very unwelcome. The only annoyance is not controllable by Park Service it seems--that is the dense tamarisk growth obscuring campsites and inhibiting access to campsites. Clear tamarisk at many campsite access areas? Mixed feelings about this. That would reduce wilderness experience.

Prohibit motorized craft on Green. Improve annotated guidebook (i.e. camp & landing sites) as well as natural history.

Get rid of the bubba factor & eliminate motor boats. Provide better info on what each sections of the river are like. Guide books aren't very good. Require guides ([name] & taxis) to know more about river. Make more campsites accessible. Get rid of mosquitos!!!!

Ban motorized traffic. Limit group size & number.

Prepare a great guide, with photos of landmarks, history, hiking trails, river distances, & field guide for all times of the paddling season. There were many unknowns that would certainly have affected out timing decisions & allowed us to plan a more satisfying trip.

Limit large groups on motorized vehicles to zero. Glen Canyon, Lake Powell, Lake Mead, the Colorado above the confluence, offer plenty of room for these obtrusions. The Green River should be for paddlers alone, thus by, solving almost every management problem. Thank you.

Limit the number of people in groups and so many canoes a day, rafts, and outfitters. Reserve your permit after Dec. 25th each year. Please no jet skis ever.

Eliminate motorized rafts/other motorized watercraft on Green River.

Continue providing the information. Perhaps more info on plants/animals/birds, etc.

Prepare a pre-trip packet, which would include the following: 1. History & general information on the river. 2. Rules and regs. 3. Points of interest. 4. Equipment needed. 5. What to do in an emergency. 6. Donation envelope. 7. How to find your way around. Needed medical evacuation for scorpion sting victim. Could not reach help for 3 days. Cell phone and ham radio did not work.

Try to increase # of campsites (and spread them out); also provide a little more info on access to maze from the river. General comments: Very different conditions experienced on Green & Colorado (boats, people, camps, behavior); very few camps of any kind found on Green, also side-canyon hiking trails were elusive due to brush.

I think a reconsideration of the basis of managing river traffic should be considered. A large group with several boats together is less disturbing than several small groups. Management should be based on # groups rather than # craft. Thanks for managing a great!! park!

Eliminate motorized craft on Green River. Regulate # of parties on river at one time. Number of river craft encounter is more important than total # of craft, 5 craft together is less offensive than 5 craft, one at a time.

Restrict the Green River to nonmotorized boats. Keep the motors on the Colorado. We were responsible for educating ourselves, but others on the river appeared unprepared. Ex: We gave water to another group that had too little. Others did not appear to have any idea where camping was safe (in a wash).

Limit large groups.

Restrict group size--6 or less people. Allow motor boats only on Colorado River. Teach people to avoid excessive screaming just to hear their echos.

Restrict use of motorcraft and group size on Green River.

Please continue to leave the Green River alone; & allow no use of motors on it. Severely restrict jet boat use on the Colorado section only for return trips from canoeing/rafting down the Green. Don't have separate operators doing it, & don't allow it for just a sightseeing trip.

Manage tamarisk, no gas motor use on the Green. 1-2 times a week ranger patrol.

Ban motorized craft on the Green River! On our last day we tried to camp on the huge sandbar @ the confluence. The sand bar is huge (about the size of a football field). there was another group @ the far end occupied by a guided trip from [name]. After we landed, a guide walked over and rudely told us to get off "his" sandbar. (It was a highwater year, and this was the first sandbar we saw the whole trip.) We moved further down to a smaller patch of sand, but this incident put a real "downer" on the whole trip. Perhaps it would help if you could make it clear that river company's operating within the park don't own the river. We would never have pulled into a small campsite that was occupied, but this guy was off the wall.

Ban motorized craft. Stagger put-ins at Mineral Bottom. Do something about rude commercial guides who behave as though they own the river!!

Keep powered rafts off the Green. Counsel rangers about boat wake caused by powered Zodiacs. Motor boats on the Green River, except for the necessary & occasional ranger should not be permitted. I think the # of groups on the river at any one time is the critical item because a group will stay together at one site.

I have come here for 26 years in a row--I love it--the increase in use can still allow for solitude & silence. Develop about 8-10 campsites--cut thru the Tammys to the cottonwoods here and there--more people could camp. Keep all motors off the Green. People in a hurry can use the Colorado to get to Cataract. Leave the Green for silence and aloneness. The Colorado for motors and speed. Everybody gets something.

Ban motors from the Green River! Limit the amount of people per day create a few more campsites--widely spaced.

Provide more information; control so that there aren't problems with the limited camp sites.

Education of river ethics for large groups with many adolescents!

No motorized boats.

Motor-free Green River (motors on Colorado only). Limit put-ins to 3/day. ? cut tamarisk for more campsites? Close roads along the river. Don't allow commercial outfitters to do advertising on river (i.e., [name] & [name]).

Fewer people on river. No motorized traffic on Green River. No jet personal watercraft in Canyonlands. No radios, tape players, etc. We support this survey & the park's efforts to manage! Great survey.

Remove the tamarisk and desecrate the grave of the person that brought to this country! Too much tamarisk. Nullifies potential camping areas and limits canyon accessibility. The tamarisk needs to be controlled for easier access to hikes in the canyons and campsites.

Get rid of the tamarisk (or control it & provide access to some of the campsites & great hiking area that are

inaccessible others) (or let us hack it out so we can hike).

Produce a river guide listing some good campsites, more detailed geology notes and track, better directions to archeological sites.

Keep motors off the river (Green).

Somehow limit the wear/tear of the dwelling sights.

Offer different river stretches to suit different anthropogenic wants. For instance limit labyrinth of Green for nonmotorized, population-restricted, back country use but allow a habitated section for the floating parties, etc.

Through spousal miscommunication we left our permit at home. In talking w/others we found out this is not uncommon. We heard that the office people get cranky about dealing w/ the ranger calling in to check if airheads like us have their permits. The office personnel should have customer training.

No motors on the Green River. Motorboats can use the Colorado River and experience the same sights. Trails (even unofficial trails) should be marked better with rock piles. For example, the trail to the rim at mile one (Green River) is lacking rock piles in some areas. In these areas everyone goes a different way. This damages more of the environment. We noticed the same problem at Water Canyon.

It's wonderful!

More evidence of emergency information/equipment.

Preserve the Green as it is--pristine, unhurried, remote, accessed only with effort. I think it is okay to have shuttle services available.

Current status of campsites/features/water etc. prior to starting trip--(maybe was available & didn't access it--not advertised or just didn't look?)

Hold usage level on Green River to current level or below. Forbid motors on the Green. DO NOT make people pick campsites days ahead. Destroys the wonderful spontaneity. Large rafter groups mostly on Colorado & especially in Spanish Bottom are a very different subculture from people (usually in one or a few canoes) on the Green. The rafters tend to be large groups (12-15), smoke, drink, "party", i.e., yell & hoot. One group actually called out mild insults to a quiet group of canoers swimming, because we were "too serious & quiet"!! Users of the Green & in general canoers tend to be quiet, enjoyers & respecters of nature, nonsmokers, smaller groups (1-6) or families, moderate alcohol or none, don't need to be loud or drunk to have a wonderful time.

Prevent commercialization (excepting guides/outfitters) at all costs!

Keep motors off the Green. Don't change anything else. (The new or first time person video about river use would be great.)

Eradicate tamarisk & mosquitoes.

Ask large groups (rafters usually) not to make too much noise (we heard one party from far off the river). Impress it upon people to pack out all waste (we saw feces & TP at river register, plus misc. garbage along the river).

Not much to change, it seemed well managed . . . maybe ban tape players!

Do not over-regulate access. Maintain prohibition on motorized watercraft. Achieve balance between monitoring river control and letting visitors achieve solitude.

No motors on the Green. OK on the Colorado.

Improve access to campsites by selectively removing tamarisk and/or willows. Do not waste Park Service resources on enforcement (no rangers on the river please!!) Cut tamarisk for access to campsites.

Eliminate motorized craft--from boats to cars to planes. Limit the number in raft parties--seems they're the loudest & least tuned in to the country. Make wildlife your highest priority--they were here first.

No motorized craft of any type in Stillwater. No jetskis anywhere in park. Limit motorized craft on the Colorado.

Absolutely nothing.

Restrict motorized rafts.

To do no harm. There is nothing wrong with the way things are now.

While everywhere we saw, and everyone we met followed the camping rules continue the education for new comers as to what is expected so the areas remain clean. If that means a required video, sure, but sent to my home for review, not required at a schedule at the park.

Prohibit motorized craft from using Green. Limit number of people & size of groups. Reroute airplane traffic. This was not a quiet wilderness experience. It felt like we were in the middle of a very popular area--people & noise daily. Not the solitude we had hoped for.

Limit party #'s and size. Rafts, jet boats on Colorado R. only. Consider clearing selected sites of tamarisk for better access & camping. Aircraft noise is very noticeable--and mostly accepted. However, since you list it, there are a lot of commercial routes over the river and a noticeable number of light planes--some obviously flightseeing. Consider clearing some tamarisk for improved access/camping.

No complaints--not satisfied with the outfitter ([name]), but that's not the park's fault. I'll just use another one next time. We intentionally came during off seasons to avoid large groups. Small motors & boats, while unwelcome, do not ruin a trip. Large planeing boats, jet ski's or commercial rafts do. Please restrict them to the Colorado & leave the Green for people looking for solitude. We're more than willing to work for it. Please, limit group size! 6-8 people, 3-4 canoes at most. Large groups damage campsite areas--there are very few places (almost none) that can support 30 people without permanent damage. Large groups are appropriate in day use situations only. I don't use commercial trips. Because of our lifestyle, I never know 3 months to a year where I will be. If a permit system restricting use is necessary please reserve a few (10%?) for people who, for whatever reason, can't plan in advance. Also permits must be available at ranger stations fairly close to the river, not by mail only.

Manage access & numbers, improve campsites & campsite landings, get rid of 4 wheel drive vehicles in Canyonland. I am very surprised that neither the BLM nor the NPS do anything to create & manage campsights. Things such as creating landings so that banks aren't trampled and eroded., laying out sites to protect sensitive areas, etc. Ignoring campsites must mean they don't happen. They just then happen without planning.

Please keep the Green for people who wish the solitude of nature--paddles only--no overflights. The motor people have Lake Powell, the Colorado & Grand Canyon. This was a high point of my life. The remote QUIET was awesome, spooky--& wonderful. Limit overflights on the quiet Green River. Motorcraft should go to Lake Powell--there is no other river in Canyonlands as quiet as the Green R.

Keep jet skis & powered personal water craft out!

We're torn between not wanting more regulation and recognizing that the number of people that can use the river is limited by the number of campsites. On this trip, at this time of year, the relatively few people we saw was not overly objectionable. If we had had to compete for sites every night, this would have been a much less enjoyable vacation.

More obvious campsites, mile markers.

You guys are great! I'll cont. to lobby for more NPS funds! Could use mile markers or trail signs.

Develop more campsites by opening a path through the tamarisk at logical locations.

Nothing, leave it as it is! Do not limit river use or set quotas for easterners it is becoming almost impossible to obtain permits for western rivers. Call-in cancellations is the only effective method and we live too far away for that to be effective.

Limit the total # of people on the river at any one time.

Leave it alone, don't put in permit campsites, firepits, etc. limit use of the river.

Please don't provide more or easier access to the Green. Help provide the quiet and isolation many of us seek in this place. If people want easy, there are plenty of National Parks to drive through on a hiway. Please consider a "No Motors" policy on the Green. Less noise from planes would be nice too. We have been coming here almost yearly since 1985 and are disappointed by the large increase in people, trash, and noise along the river. This is a very special place, and we don't want it to become another Disneyworld for all the yahoo's in this world. Educate, and you won't have to place as many limits in the form of rules and regulations.

Limit size of groups to 6 or less. Prohibit motorized water craft of any kind on Green. Educate "neophytes" on appropriate river etiquette. Do Not enforce prereserved campsites--I may not return if you do this. Limit the # of put-ins per day. Too many people this year.

Leave it alone. The problems I encountered were minor & not worth making use of the river more difficult. I came at this time of the year so there would be less traffic. I think it worked out just fine.

Campsites need to be more identifiable. More information about area. Restrooms @ Spanish Bottoms, Mineral Bottom.

Less gov't involvement. A specific river guide Belkap etc are inadequate for campsites & features.

Get rid of more tamarisc (Salt Cedar) to regain access to more campsites and/or hiking areas from river.

Look at ways to get rid of salt cedar and restore willows and wildlife to river bottom.

None of our group are inclined towards "commercial" trips of any sort but recognize their necessity as long as they are

not allowed to “dominate” the corridor and camp sites. Feeling in general is that “they” should be very severely controlled and limited due to the natural tendency to turn everything into an outdoor “party.”

One group of 10 canoes is too large. Need more campsites.

Limit # of boaters. Add more campsites. If don’t prohibit motorized boats on Green, then limit to spring season only. Increase number of accessible campsites--apart from sight & sound of others! Limit # of nights at one campsite to 2 nights.

Nothing/keep it wild.

Cut paths through tamarisk to access additional campsites (place inconspicuous markers). Abandon last 1/2 mile of Dollhouse road to segregate hikers and 4-wheelers. Limit group size and numbers of large groups.

No motors on the Green River--this survey did not distinguish the Green from the Colorado and should have. Create more campsites for small groups--clear tamarisk in places. On survey (daily), we did not count those watercraft we camped with the night before this was confusing. Except for large parties--we considered # of groups more than watercraft a problem. Require reservations for first nite and Water Canyon. Thank you for the opportunity for input.

Make more campsites (tamarisk swathe). Separate 4-wd from hiker trails to doll house. More control on larger groups. Hiking trail & 4wd road mix in Doll House. Suggest pull Doll House 4wd trail head back to avoid conflict. [name] HS group much too large had 4 @ 25 people groups. This negatively impacts other users. Provide more campsites by cutting tamarisk swathe.

Eradication of tamarisk.

We are less concerned with seeing other people along the river than camping next or near to them. Perhaps larger groups could preregister for certain campsites. Information about how many people campsites can accommodate would be helpful--for instance--shot Canyon--3 sites river right plus sandbars. Prohibit jet boats on Green R.

No motorized craft on Green. Put in more campsites @ popular areas. Make sure people know proper environmental ethics. Tamarisk limits accessibility to ruins and good campsites. Limit airplane fly overs. Tamarisk growth is a big problem for views and accessibility. Only make people register at beginning of trip for popular areas.

Improving access to camping & points of interest. Lack of access to camps & points of interest. Remove tamarisk in areas of interest to create safe access & camping.

Keep the Green River for canoes, kayaks & nonmotorized rafts. Use the Colorado for motors and commercial operations. Keep on doing the good job you are going. [Name]--I like this questionnaire. Thanks for the opportunity to fill it out and for taking extra effort to get in touch with me.

More camping areas.

Prohibit or reduce the number of large groups and motorized boats on the river. Also, airplane noise was constant and should be controlled, especially commercial airliners. If [name] was President he’d take care of it.

Limit group sizes & # of people on river; we floated at “off-season” time & were not inundated w/ people, but several areas showed evidence of heavy use (Joseph Canyon, Turks Head). Noise from vehicles on White Rim Rd.

Reduce crowds. Eliminate motors.

More education.

Maintain status quo.

To have big jet boats for canoes users only (no rides with special boats). To have motor crafts start from the ruins (the lowest possible). On the peak season, to organize camping and start hours. On the Green River to have 5-6 emergency fire radio. Colorado (enough jet boats).

Clean out the nasty tamarisk. Individual campers or small groups dominating campsites appropriate for larger groups. It seems there are plenty of small sites. One person or a small group should be guided or advised to leave larger sites if they seek solitude--or at least not hinder the larger group with unwelcome attitude.

Outlaw motors except for emergency evacuations and upstream transportation back to Moab. Mud from one end to the other if campsites were more accessible we wouldn't have to deal w/ so much mud. More accessible campsites within wilderness ethic.

Eliminate or control the tamarisk growth. Difficult, muddy, tamarisk-choked landings. Improve loading areas at campsites along the river as needed.

Clear tamarak growth at campsite & trailheads for accessibility.

Colorado River - Responses to Question 10

The ranger who checked my camping permit & equipment was friendly, polite and nonconfrontational. The Park Service should continue to instill these qualities in their field personnel.

Decrease number of motorized vehicles -- on one river Green or Colorado maybe in alternating years. Jet boats seem necessary.

Please, don't stop jet boating (Family). Thank you.

Improve ramps & restrooms at access points on BLM land. I.e. Potash ramp and Mineral Bottom. Those are the entry way to Canyonlands via river.

Perhaps limit the number of motorized trips on the river and the number of planes flying over. Request that parties avoid camping adjacent to one another, unless absolutely necessary (e.g., because of bad weather).

Map with rock formations to help you figure out where you are.

Please convince the BLM folks to ban the use of jetskis from the upper Green! Also convince them to lose the airstrip @ Mineral Bottom. Decree the Green from Green River to the Confluence a wild and scenic river. Do NOT allow the Green or Colorado riparian areas to be used for filming locations or large sporting venues. Please work to preserve the area surrounding the rivers as a part of the National Park (e.g., Labyrinth Canyon; Lochhart Basin). Be a strong advocate! Our experience has been that [name] does an excellent job of providing thorough, detailed & helpful information about appropriate behavior, safety rules & regulations & things to do & see while on the river. In all our years of trips on the Green & Colorado, we have rarely, if ever, encountered people behaving inappropriately, aside from the consistent smell of piss in the sand at Water Canyon campsite (Green, mile 4). The people at [name] provided very little in the way of helpful & important information, & their employees have on at least one occasion not shown proper etiquette at the put-in. If I worked for the Park Service, I would either provide more rangers @ put-in sites to offer information or make commercial permits conditional on each outfitters' offering professional & helpful service in addition to drop off & pick up service. [Name] probably launches many people who are ignorant if they haven't read their permit carefully.

Offer orientation/etiquette video to include safety, fire pan use, portapotties, wildlife to be seen, flowers, etc. (Paper material given is excellent but I think a video (something visual) would get the message across more or have more impact.

I can't think of a single thing. We had a perfect time in Canyonlands.

No surveys while on vacation--send after the trip.

Improve toilet and water. Leave # of jet boats. They patrol without taking away from gov. personel, and provide a service needed for canoes and kayaks. Thank you for a park like this.

I don't know enough about river use in Canyonlands to make suggestions. I do hope to return, and to find conditions prevailing to provide another wonderful experience.

Limit overhead air traffic. Maintain the river as a clean & primitive wilderness area even if that means limiting access.

Put up mile markers to match maps.

To have big jet boats for canoes users only (no rides with special boats). To have motor crafts start from the ruins (the lowest possible). On the peak season, to organize camping and start hours. On the Green River to have 5-6 emergency fire radio. Colorado (enough jet boats).

Colorado River and Cataract Canyon - Responses to Question 10

Limit jetboats.

Make sure a new road isn't built within 20 miles of that river--it's a long slow ride, non-motorized boats limit themselves, keep commercial operations minimal!

The reservation system for campgrounds after the confluence has campgrounds listed and a description of camps and their locations. This information is not available anywhere else I know. Also, it talks about low, medium and high flows I think when we know the flows they should add that to the descriptions (e.g. high flows ~ 30,000+ cfs). I would like a booklet or river map available at an additional cost that describes camps and archeological sights. Also, eradicate the tamarisk.

Remove the tamarisk only kidding maybe?

Poison out much of the tamarisk that are overtaking much beach space. Groom camp put in with sand for tent sights.

Lighten up, quit catering exclusively to the environmentalists/tree huggers. There are others who use and enjoy the river!

Drain Lake Powell.

Toilet facilities at campsites.

Restrict group sizes--some were way too big other than that, I saw no really big problems. Down by Hite Marina does need some cleaning. A lot of debris in the water. I plan on returning!

Keep it as close to a wilderness area as possible.

Remove jet skis from river & enforce it! Don't increase use of motors. Encourage using the river in pure form--on nonmotorized rafts. You should look at the regional need for motorized boat access. In other words--How many rivers are currently open to motorized? How many opportunities are there to raft/canoe a river that has no motorized boats? This is where you need to strike a balance. Some rivers should have motor & nonmotor, but there needs to be rivers that have no motors except for law enforcement, research, and rescue. It was our honeymoon, so it and the memories we have from the river, trip, guides and group members will always stay w/us.

Filling out a questionnaire, asking people to pigeon-hole their thoughts is the antithesis of river time/river experience. We come to the river to get away from such things. We had difficulty quantifying answers. Some questions didn't cover things we might want to say. I should think you'd get far better info in personal interviews NOT on the river, but by phone later if you had a place on the questionnaire we could write it's ok to phone us later. It is sad that a river experience must be constrained at all, but inevitable I suppose given increasing population and demand. I doubt we can afford another river trip again, but given the first set of bracketed items, price increases are inevitable if service & safety are maintained.

Pretty much like it like it is. Camp sites are in short supply below the rapids, though.

Keep up the good work! And continue to let private groups use the river as well as commercial.

Facilities at inlet/outlet could be improved but the river, camps, and regulations seem to be beneficial to everyone as it is. We really enjoyed it as it was! GREAT TRIP.

Allow (& encourage) destruction of tamarisk. This would open up trails & improve camps.

Ban all motorcraft from the rivers in Canyonlands--plenty of room for motors on drowned rivers and reservoirs (Lake Powell, Medi, etc.)

Eliminate motors from the river completely!! Drain Lake Powell.

Let people come & enjoy this beautiful place.

Just keep it as it is -- don't let it get over used.

Ban jet skis, support proposals to reduce level of the lake. Ban all motors below confluence.

Limit number of motorized watercraft -- particularly "upstream" traffic.

I believe the park shows a very high level of management and preserves an outstanding experience largely free from impacts (adverse) of humans. An experience was clearly enhanced by [name] expeditious, professional and environmentally sensitive approach to the river.

Keep [name] operating.

We understand wanting to preserve the area, however we would like to see some handicap accessible hiking trails and facilities.

Manage numbers allowed at one time, do more to promote wildlife integration & habitat support.

Whatever you're doing is great! Keep up the good work.

Make better rapids.

Control spread of tamarisk.

Leave things as they are.

Create sign up box for all sites not just rapid sites.

Fewer motorized boats.

Park managers are doing a good job, don't be pressured into letting more people on to the river.

Spread out the number of big touring groups, so they are not all in one place at one time.

The toilet facilities were disgusting, to say the least. I understand the requirement relating to protecting the environment. However, at major established camping sites, flushable toilets would be worth the additional cost.

Toilets & showers @ designated camp sites along the river. Increase usage fees to cover the costs. Such facilities will prevent abuse of areas by visitors.

Keep it beautiful.

Limit the number of people who can launch at one time to 20-25 people.

No large motorized craft. Limit no. of users.

Keep the river & surrounding areas as pristine as possible. No commercial development, no more permits than you now have.

What's to improve, it's incredible!

To see that visitors understand that it is totally slack water except for 1 hr. of rapids. If we would have been made aware of the truth that there were 2-1/2 days of motoring through totally slack water, to run 1 hrs worth of rapids, we would never have gone. There are many rivers in this country that far exceed this one, simply because of put-in & take-out logistics. We feel we wasted a lot of money & more importantly, 3 days of our vacation. We uncomfortable & totally bored, and could wait for the trip to end. Outfitters info needs to be more truthful.

It's fine the way it is.

Stop commercial companies that sign for camps to be used by groups that are a day behind them.

I would like to have a detailed map of all the camp sites for rafters. On this map it should show the size of camp, whether it is for high water, low water ect. In addition, if the raise is going or a regular permit system the system should be equal to private boaters as well as commercial.

Advise jet boats to be respectful of nonmotorized boats.

You're doing a great job! Keep it up!

Can't think of any.

To maintain the limits of watercraft usage.

Make the sign in box above rapids mandatory. Post signs at Dark Canyon to help "manage" that area more efficiently--i.e.,--designating exactly what "COVE Camp" is etc.

Keep up the good work. It seemed very clean!

Keep this nature, because it is unique. We think that the number of campsites should limit the number of groups allowed on the river.

More rapids.

Don't contact me any more about this survey.

Limit transport of canoes on river. They could return via roads, instead of river.

Limit motorized craft.

Remove the dams!!! Teach [name] some etiquette.

Very impressed with the amount of boats see given the amount of usage of river. If canoes use Green River have jet boats picking them up use Green River.

Would like to see more rangers on the river.

Build up rapids.

Remain friendly with the river guides encouraging them to know about plants, geology, wildlife, first aid. Our guides were excellently qualified.

Help in case of emergency.

Communications during emergency. Hite marina emergency connections.

Check the permits that are actually being used. Support destroying Glen Canyon dam.

Move it to Pasadena.

Education re: preserving wilderness, sites along way.

Dad says leave it like it is & I say allow all folks to continue to enjoy the Canyonlands on a variety of levels that can meet each person where he/she is at, esp. physically, jet boats.

Possibly more interpretive signage/exhibits (e.g., "here's where Powell faced his most difficult rapid" "This plateau is named for....")

Limit motorized watercraft.

Better sanitation.

I liked the way the river seemed to be all our own much of the time. It's also nice to see others enjoying the river also--so you don't feel all alone during a long trip. I think skiers and jet boats should be limited to the Lake Powell area, and leave the river to more traditional exploratory crafts which fit the theme of "River Run."

Regulate jet boats--number--spacing. Drain Lake Powell.

Keep it pristine, limit access--don't turn it into a ski resort, advertise best times to experience real rough rafting, show us some bighorn sheep, cougars, anything! (saw 1 2" lizard).

Set up restrooms.

Education on preservation and etiquette. Stench and pollution in lower part of Dark Canyon.

Certify guides/on river trip, guides should be professional, 24 hours a day, in case of emergency. Guides should not be allowed to get intoxicated at end of day. Guides should not be allowed to drink alcohol during trip.

Improve land management. Low impact is great.

Figure out a way to remove tamarisk & encourage the return of native plants.

Campsite reservations.

Limit group sizes. Develop more campsites at appropriate locations--especially below the rapids. Problem is not # of boats per se, but instead the size of groups with multiple boats rigged together. These large groups overwhelm the riverscape, & detract from the natural experience.

Improve the survey & make less repetitive. On a guided trip we didn't need anything--but if on our own would have needed lots of guidance & checking out before departure.

The toilets at the put in point!

Lower level of Lake Powell so more rapids would appear on rivers. Restrict lake boats on upper end more forcefully.

Adobe pit toilets at campsites. Clarify sign up sheets for campsites so there will be no confusion about the number of sites or people to occupy them. Sign telling boaters at Lake Powell to let rafters camp there should be turned so people could see it.

Implement a campsite reservation system in the North Canyon area where sites are not plentiful. The last campsite in Dark Canyon was flooded due to high water. Need to have some type of reservation system--fortunately we had an accommodating tour guide that allowed us to _____. The NPS places too much emphasis on giving commercial trips priority. The NPS should make more trips available to the general public and encourage them to arrange for competent guides who know the area.

Continue to/or establish use limits to maintain the experience.

More information on safety.

Clean up Lake Powell.

I have no complaints. It seems like things are running reasonably well at present.

Make some time without commercial trips & motor. A little time for privates & oars.

Limited either the # of big motor rigs or the # of people on the motor rigs.

What do you think of this survey? These are very loaded questions.

Outhouse facilities or accessability.

Supply maps of the area with itemized points of interest geological or archeological.

Clean up the river.

Mark hiking trails better.

Limit or prohibit motorized boats in Cataract Canyon.

Better scheduling of launch days & times to provide less congestion on the river.

Better coordination between outfitters. Our guide reserved our campsite only to find claim jumpers there by some non-local outfitters. They claimed no knowledge of reservation system in place.

Emphasize microlitter & macrolitter (pickup floating cans, etc.).

Provide informational guidebooks or lecture on geology or/and anthropology of the area.

Provide a secondary take-out at the airstrip. I perceive that available campsites are the limiting factor, not number of boats. There are a few large campsites which could be reserved in advance for large groups. Some additional sites could be developed by clearing brush. The river traffic could be doubled or tripled without causing congestion on the river. I enjoy watching others do the rapids and we got to do this only once on the entire 5-day trip.

I thought it was pretty good as is though I didn't see any 40 member groups! If not already, prohibit individual motorized/personal watercraft, i.e., jet skis. Limit jet boats (both in number & in areas allowed). Attempt to space groups if possible without being too strict since different groups will spend differing amounts of time at various sites along river. Limit size of groups (20-25 max.) I'd rather see fewer motorized vehicles watercraft--or at least more limited area where they are allowed. The rules which protect the area are important (e.g., packing out everything, etc.)

Keep groups reasonable size. Limit large/fast & noisy motor boats.

Quit siding with the outfitters. It is a public river. If I had a boat and want to spend every day on the lake I probably could. It is not realistic for the river, but let's get reasonable. The main problem I see is a perceived wanting of control of the river by outfitters. You are looked upon as being a commercial outfitter if you want to take more than one trip down the river. One trip does not justify expense needed to buy equipment to run the river. Nobody questions boaters spending thousands of dollars for a boat to run it on the lake day after day. I really do not mind outfitters but do believe they should not have total control of a public river. A lot of this is already taking place. I don't approve of some of the rules & regulations that have come down because of a partnership between the outfitters & the Park Service. That is a quote "partnership." I was at a meeting with the outfitters & the Park Service.

To not allow motor boats and to do litter pickups.

They are doing a great job.

This is the first time our family ever vacationed in such a remote location! We enjoyed our adventure very much! But we also like the security of knowing park rangers and others (in motorized boats & jet boats) were around in case of injury or emergency. This security was extremely important!!!

Smile, state why they are visiting & get the job done. I do support the rangers.

Park rangers appear to do a good job.

Provide access to campsites which are now barred by tamarisk.

Limit use of motorized river craft.

Provide more information about the park and its sites before the trip as well as info. about river edicate . Also to provide more information at the different campsites about various hikes available and sites to see. Additionally, it would help to see more park rangers along the river.

Establishing and enforcing a speed limit for motorized water craft. The number of outfitters permitted on the river on any given day needs to be limited. A rotating system is needed.

Eliminate motorized vessels on rivers.

Make sure people can get medical help. Some permanent toilet facilities. Clean and safe toilets at launch sight., They were terrible!!!

Keep motorized boats off, especially jet boats.

Ban motorized craft in upper river, monitor and enforce wake rules, work toward removal of dam.

Removal of motorized boats.

Be conscious of the original premise set up for national parks; experience solitude & times of reflection. An experience which has limited contact with other humans outside of your group. Keep up the good work! Higher fees cause the experiences to become elitest. I believe a wide array of people need to be able to experience the wilderness.

Can't think of anything but to protect this beautiful part of the country.

Things seemed fine the way they were.

Don't restrict its use. There were not too many parties on the river. Too many regulations are dangerous and costly. More people need this experience, not less!

Open up more hiking trails from the river. Thank you for your management of this priceless resource!

Tear down Glen Canyon dam. Eliminate tamarisk from the river environment.

Cut down on jet boats & airplane noise.

Let's manage the park with the least amount of development possible.

You're doing an excellent job.

Control the noise from motors, jet boats.

Spray for bugs.

I thought the surroundings were very well kept & undisturbed. Didn't see much room for improvement.

Lower level of Lake Powell to Dark Canyon, maximum. Overall, kudos for current management! River runners seem to be taking pretty good care of canyon. More pre-trip education might be helpful, less focus on enforcement in canyon. Use shorter survey!

Support excellent commercial organizations like [name]! and encourage all to do as good a job.

No motors. If you can't take the time to float the river, why not stay home, jump in the kiddie pool & watch a video of the river.

Nothing--great place.

Reduce # motorized boats in use on river.

Lower the level of Lake Powell to give us back some of the river.

No changes need except possibly more camp grounds.

Status quo!

To make sure that this survey represents equally. You cannot accurately survey equal numbers of private, canoe & commercial river runners. This does not accurately represent the commercial segment. Results will be tainted.

Leave it alone.

Create some rustic "natural" campsites. A nature walk indicating natural habitats--flora , Anasazi ruins.

Ban use of wave runners on the river & rapids (enforce). The too many motorized crafts refers only to 8 wave runners (jet skis) that buzzed our group--noisy & inconsiderate.

Preserve its natural state. Enforce the regulations (e.g., trash removal) if necessary. It is fine the way it is--we had a wonderful experience (all four of us).

Limit number of people on river--really limit number of motorized craft on river.

Keep up the good work!

Seem to be doing fine.

I would like to see slightly developed camp areas.

Prepare an educational video to be mailed to all who use the park. Deputize the guides to maintain park rules & regs.

Better facilities at Hite Marina.

It was perfect. We will be back & have a 17 yr old son who wanted to be a forest ranger but has now changed his mind to become a guide if possible could we get some info on how to begin.

Clearwater campsite could use a leveling.

Nothing--it's great the way it is now!

Help educate reservoir boaters. I believe commercial and private river runners take care of the river for the most part.

Restricted speed of jet boats. If you [raise] costs do it for private groups. The commercial outfitters have more of a reason to make sure all regulations are followed since their business depends on it. [Name] were very good at ensuring that the park was respected and only our footprints were left behind.

Less jet boats.

Lake use of camps--same regs as river runners.

Provide that archeological sites are not compromised without any disruption of their natural setting.
Tear down the dam forming Lake Powell.

The only group we met who were nonprofessionally acting were a lg. private group rowing and drinking beer. I think perhaps private groups should be monitored and let the professionals do the job. They know & love Canyonlands & want to see it protected. Our guides were watchful & treated this wonderful river with respect!

Leave things as they are.

Get rid of jet boats.

Improve servicing of restrooms (Potash was bad).

I would suggest limiting motorized use, particularly jet boat use.

Ban motors and use a lottery system that does not give commercial runners priority over private boaters. This river belongs to all of us, not the commercial companies. The motorized craft race ahead and grab the best campsites.

The toilet facility @ put in.

Rules regarding quiet times after 10:30 p.m. Limit group size per raft to 12 + guides. Our group had 2 S rigs & 2 rowboats. Group size was 31 with guides. I feel it should be 25 or 26 total plus 4 guides or no more than 30. Have as many groups as campsites. No more than 30 per campsite.

Better toilet facilities at put-in & take-out points.

Don't control the park.

Prepare shorter survey.

Leave it alone--if it's not broke, don't fix it. The beaches were spotless & the area wasn't crowded.

The rules are perfect--Don't mess with them!

Can't think of anything.

Nothing--it ain't broke--don't fix it.

Put-in at Potash, the toilet was in deplorable condition. (No toilet paper) If I would have thought, I would have used this survey to wipe my butt.

Build showers at take out.

Better camping at put in!

Lower the water level of Lake Powell which would increase the number of rapids on the Colorado and limit the access of personal watercraft into the Colorado River.

Limit speed of watercrafts when meeting canoe or rafts.

Put signs on the campsites--penalize violators.

Limit the # of people who can put in on a given day.

All points of concern are enclosed. Overall I, and the members of my group think you rangers are doing a fantastic job!! Keep it up!! More clear area for personal trips to put in. Seems put in is 99% occupied by commercial crafts. Designate a decent area for private trips.

Maintain a presence on the river and continue to educate people about safety & maintaining the natural conditions. Our outfitter did a good job educating us. I assume most outfitters do-- so more for private boaters.

Give more information eg. send out details with commercial companies.

When rafts are in sight, jet boats should reduce speed (less noise, less waves).

Reduce the number of motor crafts allowed in the river. They're distracting from the outdoor experience.

Less use.

I would ask them to ban motorized rafts and jet boats and regulate the number of trips allowed to go down the river.

Maintain status quo.

The park has done an excellent job of keeping the Canyonlands undeveloped and clean. I would hope they can continue to keep it this way and discourage the intrusion of jet boats etc. from Lake Powell.

Ensure that the rivers are not over used, especially by motorized craft, and support river guides by educating the public on proper wilderness behavior. Ran across some illegal camping and fire building on Lake Powell. This [unoccupied campsite] was only "not a problem" because our guide was extremely experienced and our group very responsible and cooperative, allowing us to get a fairly early start each morning. Groups that left later did have problems. We believe the guides need more flexibility than this [campsite reservation] allows in order to account for weather & safety. This [limit # of days] would require more motorized watercraft, as it took 3 days of rowing to reach the rapids from put-in, and was some of the best part of our journey.

Slow down jet boats when they confront other craft. Muffle jet boats. Possibly control traffic so fast groups don't pass slower groups (enhance solitude factor).

Blow up the dam.

Stop trying to regulate trips.

Restrooms @ pull in & put out need to be ADA compliant. Support legislation & techn. to quieten motors on personal craft & motor boats.

Control noise & litter! Clean up litter & floating muck.

Limit personal motorized water craft.

Keep things untouched, undeveloped, but keep rafting!

Better warning system for problems on river and better communication tools. We had a potentially very dangerous problem during this trip, i.e., big boat stuck in middle of river.

Remove the big rock in front of rapid #23. Kidding.

Periodic ranger stations or rangers on boats throughout river. More accessible hiking trails. Better access to info regarding geology & animal/plant life.

Have more help in case someone gets stuck on a rock or something.

I don't know for sure.

Marker? Better maps.

To print information about geology, about Canyonland, in different languages (French !!!)

Warn people that their white clothes will turn red. But, you know, it's no big deal the trip was unbelievable. I feel very fortunate to have experienced such an untouched beauty. You're doing a good job!, I think. Thank you for your efforts!

Porta potties, no jet skis.

Watch the other people more when it comes to the river.

Somehow make sure that illegal boats do not enter where they are not supposed to be.

I would ask them to provide more park rangers along the river to enforce rules & ensure safety. We didn't see any on our trip over 7 days on the water.

Minimize motorized craft where motor is primary form of locomotion.

If my trip was representative of most people's experience I see no need to further manage the number of users. I'm thankful for the NPS efforts here at Canyonlands (and elsewhere) and am glad to see this effort to gauge user's experiences. Squirrels at Water Canyon are becoming too well acquainted with people. There is virtually nowhere to properly hang food bags. Had I known of this possibility I would have packed food in a hard container.

The beauty of this whole trip was the cooperation of our guides with all others involved including park rangers. The system is perfect now, don't break it with very small special interests limiting use of others. The park system belongs to all of us. It's God's gift to man & man's responsibility to treat it with reverence while enjoying it.

Doing a great job!

Drain the reservoir.

Have small guide book available at put-in that people could purchase if they wanted. Highlight names of rapids & legends.

Keep it the way it is--don't regulate the people who take us on these trips to the point that the feeling of being one with nature will be lost.

More private permits, fewer motors.

No power boats above Hite Marina.

Limit group sizes & jet boats use. I'm not sure these assault boats are appropriate for Canyonlands wilderness.

Clear out the tamarisks.

Provide lecture to group by ranger or trip leader on river etiquette, i.e., cleaning microgarbage, peeing in river, multiple trails, low impact camping, straining dish water. I support the ban on personal watercraft--feel very strongly about this. Very friendly & helpful ranger that checked us in--welcome change from some other Utah rivers. Of all the local rivers, this stretch is a very good one for commercial motor rigs--the nature of the river sort of requires a motor anyway. I would have no problem adding commercial launches, perhaps at the expense of San Juan, Westwater, upper Green, etc.

Don't over regulate it.

Encourage less littering.

Mark the base of the doll house trail.

Most things seem perfectly OK to me. Good balance of control and freedom.

Work on limiting the # of jet boats.

Keep motors off the Green River. Keep PWC out. Get quieter jet boats. Limit #'s of boats.

Undam Lake Powell & have the rest of the rapids to run. Not allow alcohol or drugs on the river. Allow only first class outfitters like [name] Griffith esp. to run trips.

Outlaw commercial jet boats; strictly limit other commercial use and increase education of proper river ethics.

Nothing--less intervention by mgrs the better.

Limit # of motorized craft on river.

Kill the tamarisk & control lake fluctuations so there are not ruined camps.

Preserve the rights of private boaters usage.

Drain Lake Powell.

Let the individual rafters decide their own itinerary. Those who care do more for the environment and boating society than bad.

Limit building on the river. Let people visit as often as they/we wish. Limit restrictions on the river to keep it natural.

Draw a line on number of large motorized boats. Limit size of boats and number of people on those boats. I understand these folks, who were mostly very considerate, have to make a living. Perhaps limit number per day -- Good Luck!

Drain Powell.

Park rangers and/or information about geology or archeological sites, etc.

Reduce jet boat #'s, no jet skis, limit motor powered rafts.

Greatly reduce jet boat use. Keep jet skis off the river.

If possible, to remove tamarisk that has inundated possible campsites. It has severely limited the number of usable campsites. We were shocked to see (& hear!!) two jet skis on our trip. (We saw them at about Mile 31, heading downstream. They returned about an hour later.) Inadequate handling of campsite reservations. It's important that parties know exactly where the box is located. This was our fourth Cat. Cyn trip & some parties appeared to have others reserve their campsites in advance of their trips. An [name] group of 3 rafts & 4(?) kayaks had not signed up for a campsite & were in our site at Upper Spanish Bottom.

Remove tamarisk to give access to more campsites & hiking. Improve ramp at Potash for raft launches. Campsite

registration--improve visibility of box, include campsite information that's in the box prior to the trip to the permit holder to allow better trip planning (office in Moab could not get me a copy). More campsites at Spanish Bottoms.

River guides at [name] were VERY careful to impart importance of protecting the river environment and Native American artifacts. Although there were many people on large rafts they probably did less damage than some smaller groups.

Green River and Cataract Canyon Trips - Responses to Question 10

Clear vegetation from river to campsite so there is more and better access to water--some grasses are too overgrown--brush, etc.

Regulate/prohibit motorized craft (except on reservoir). Remove/control tamarisk. Regulate/space out put in dates. Tamarisk limits campsites, encourages mosquitoes, non-native, displaces native habitat, takes over sandbars.

Prohibit motorized crafts. Educate first-time users. Remove tamarisks. Tamarisk problem--difficult to access campsite due to tamarisk. Also habitat for mosquitoes.

No motors!

Designate camp sites and assign them as requested--if available, regulate number of launches per day/week, limit upriver motor boat traffic.

Create more campsites above the confluence as with other places we've been the tamarisk has taken over what once were beautiful camps. I wouldn't pay for a commercial trip as we do private trips! We enjoy being on rivers in general, not necessarily Cataract in particular.

Get rid of the tamarisk!! Have more informative rangers at the put-in. K.I.S.S.

We didn't see excessive motorized rigs, but if we had that would be a detraction from the serenity of the canyons. Managing the # of motor craft--few or none--would be good to ensure the river experience in Canyonlands remains tranquil.

More signs about appropriate behavior in this wilderness area to lessen human destruction of areas around campsites, trails, & water.

Remove the dam. Limit motors & planes.

More pro-action by park personnel and river users to clean up man-made debris (bottles, cans, broken glass, styrofoam pieces, etc.)

Keep it pristine as it is today. Don't add any modern conveniences. Keep it wild.

End motorized rafts & boats.

Eliminate motorized rafts/other motorized watercraft on Green River.

Have a system where boats that are breaking regulations can be reported when you get off the river or a way to enforce campsite reservations.

More campsites, and because of this, stronger enforcement on power boaters from Hite landing camping beyond the bouy marker. We gave up our registered site because of this, and had to go further down river to a more undesirable site.

"If it ain't broke, don't fix it". It was great just the way it was.

Right on you guys. Please join Grand Canyon Private Boaters Assoc. Grade Mineral Bottom boat ramp for dory trailer put in's.

Keep motorized use of large tour to a minimum. Keep overflights low. Thanks for keeping PWCs out! I just as

soon there were no commercial trips allowed, only privates . . . guess that's not going to happen.

Make sure everyone plays by the same rules!

Do not change anything, the services have been fine for years. If anything, limit or instruct canoers on proper use of the rivers, the commercial guides are the people who keep it as nice as it is, personal trips are the damage causers.

Didn't see any rangers. Think our commercial outfitter acted appropriately at all times. Saw one outfit without life jackets in waters we were told people had to wear them but only infringement we saw. Found 70¢ at one campsite & a pocketknife on the beach at another. Saw one life preserver in the water. Otherwise pristine. (255/3)

Traffic below Confluence. Air traffic--cut down.

Campsites on the Green.

Limit size of parties, improve river etiquette (on private AND commercial trips) as far as wilderness preservation goes--through education, primarily.

Limit or ban jet boats, motors above confluence. Increase number of acceptable camping sites. Drain Powell reservoir. Available campsites along the Green thru Labirinth & Stillwater canyons. It would help to clear some tamarisk in some spots to create additional camping sites.

Keep the Green River quiet, motor free. Direct scenic flights away. Motor traffic confined to the Colorado River. Mineral Canyon landing should be enlarged somewhat to reduce conjection.

They have done an outstanding job. Mandatory cleanup of campsites and use a porta potties has probably done more to preserve the area than anything. I like the light touch to enforcement of other rules but maintenance of the pristine nature of area is the most important. It's a shame about all the tamarisk but it looks ok.

Make sure people using the river know all the rules & regulations.

Don't overregulate. The canyon is a wonderful place now.

Drain the reservoir. Identify small group (canoe & kayak) campsites vs. large group (raft) sites.

Maybe a list of good campsites along rivers.

Regulate small canoe trips--so many times one or two would camp in large camp areas--their #'s should be regulated as boats are down the Green. Otherwise all seems well! Perhaps canoeists should only be allowed to camp in small unknown camp areas when there's less than five people.

I think they do a "bang-up-job". The last 3 times I've done this river, they haven't even been there for the check out. This is the way it should be. Use park service personnel to improve & create additional camps along the river. I wouldn't pay for a commercial trip at all, but I'd like to see commercial operators put out of business with sky-high costs. I'm not very interested in my tax dollar supporting the exploitation of these rivers by [name], [name], [name], etc. They typically over book the camps, are obnoxious, motorized, & do little to promote a real understanding of the river. It's basically a Disney Land "E" ride. Get them out of here the Grand Canyon, the Middle Fork, etc. They're a relic of the 50's & 60's when private rafting was exotic. It isn't any more. More porta-potties too many use groovers. Taxes are for what purpose if not used on the river in some fashion. There should not be any commercial operators at all. Why should we pay so much when we can do this ourselves. You allow too many permits for commercial operators & not enough for Joe Citizen when we pay the taxes for this land you tell me the truth.

Educate people on river and camping etiquette. Strive to maintain a quality experience while in the park by closely monitoring/managing so that overcrowding doesn't detract from the peace and quiet (including sightseeing flights), after all--that's why most people make the effort to come out here. River maps don't show all campsites. Congestion occurs, especially in the last 15 miles to the Confluence. If groups knew other camping options they might not cause so many intergroup conflicts by crashing other peoples' campsites. I was completing a solo expedition from Flaming Gorge Dam to Hite Marina. My solitude started to suffer in Labyrinth Canyon and deteriorated considerably (at times) in Cataract Canyon. My solitude and privacy mean a great deal to me, as they are some of the reasons I do these trips. To have uneducated, thoughtless cretins destroy the park experience of others who possess river (and camping) etiquette is an abomination that shouldn't be tolerated. I didn't want to ruin my 5 week expedition by beating senseless some rude moron who claimed his large group's needs (camping) superceded my solitude. This negative experience detracted greatly from my enjoyment of Cataract Canyon! Labyrinth continuation trips caused camping congestion in Stillwater Canyon. This should be better monitored and controlled.

Have access closer to confluence.